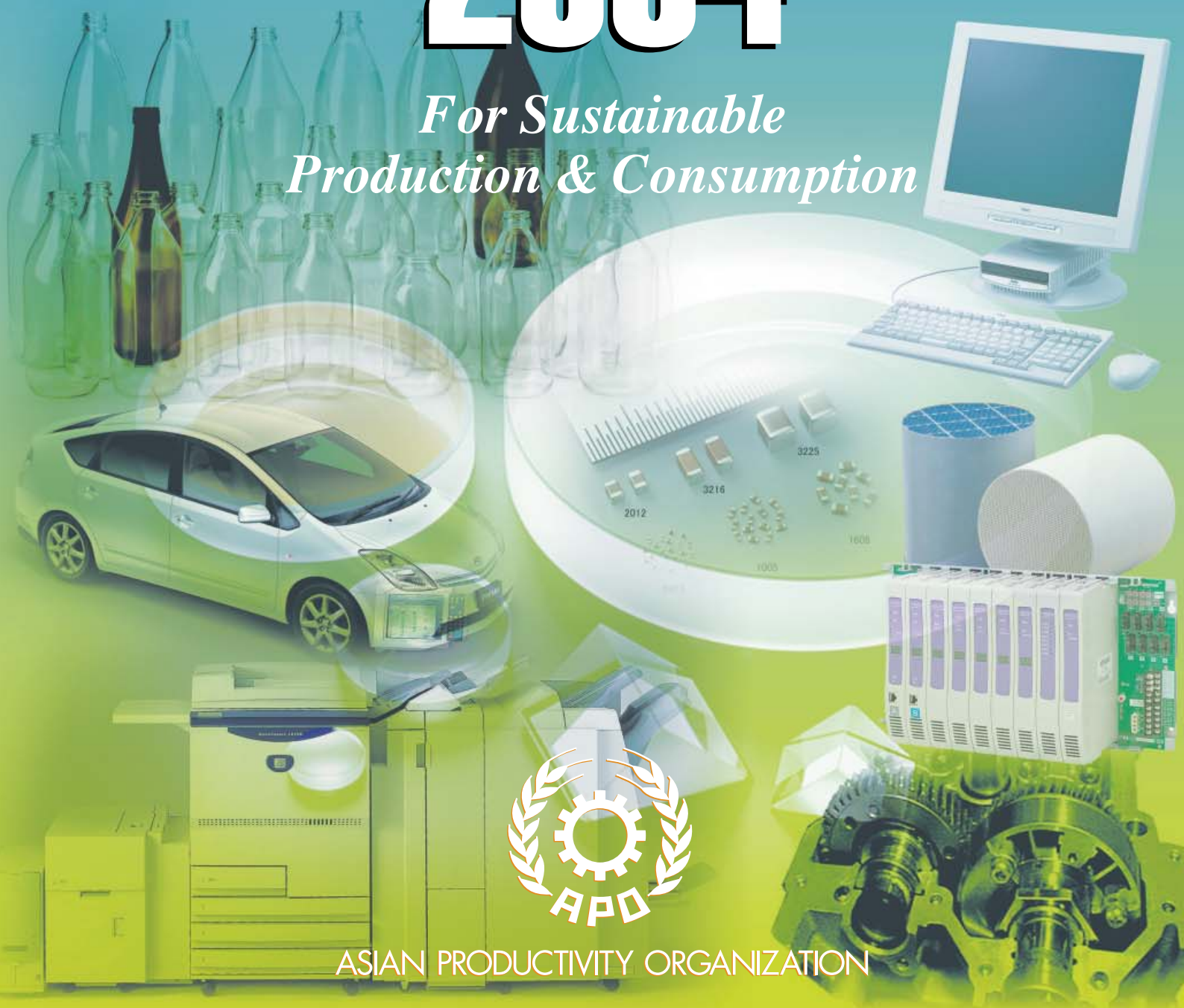


ECO-PRODUCTS DIRECTORY 2004

*For Sustainable
Production & Consumption*



ASIAN PRODUCTIVITY ORGANIZATION

ECO-PRODUCTS DIRECTORY 2004

*For Sustainable
Production & Consumption*



ASIAN PRODUCTIVITY ORGANIZATION

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Foreword

Greening the supply chains is currently one of the main key pillars supporting the implementation of the APO's Green Productivity (GP) Program. The program related to greening of supply chains took shape with the establishment of the GP Advisory Committee (GPAC) in Japan in 2003. The committee, involving senior representatives from around 40 leading Japanese companies, is currently chaired by Mr. Yoichi Morishita, Chairman of Matsushita Electric Industrial Company Ltd. Its role is to advise and support the APO in implementing GP-related activities by sharing the rich experience of those companies in environmental management. The GPAC identified three core activities in the field of greening supply chains; compiling and updating an eco-products database; organizing an eco-products exhibition on a regular basis in Asia; and implementing pilot projects on greening supply chains.

The development of a database consisting of eco-materials and eco-products including services will facilitate the greening of supply chains through the expansion of green markets and development of global standards for eco-brands in the Asian region. As an early initiative, this first publication will only cover selected eco-products available in Japan. Compiled in the form of a data book, the database is expected to create awareness that eco-products contribute to the goal of sustainable production and consumption. Up to 700 selected eco-materials and eco-products are featured in this publication.

This eco-product database publication will be launched during the Eco-Products International Fair held in Malaysia in September 2004, the first eco-products exhibition held in Southeast Asia. It is my hope that this publication will contribute to an enhanced understanding of the importance of environmentally friendly products and services while also accelerating the expansion of green markets in Asia, which is currently the world's manufacturing center.

Our sincere thanks are due to Professor Ryoichi Yamamoto, Chairman of the Subcommittee on the Eco-Product Database of the GPAC, all the members of the committee and working group, and the Society of Non-Traditional Technology for their dedicated efforts and leadership in bringing this publication to fruition while creating greater awareness of the importance of harmonizing productivity with environmental preservation among the business community and public in the APO region.

Takashi Tajima
Secretary-General

Tokyo
September 2004

Introduction

Achieving a Sustainable Economy through Eco-innovation

It is now clear that if the current world economy continues its present course, environmental destruction and social collapse will be inevitable. The following facts should provide sufficient empirical evidence to support this assertion. For example, overall 760 tons of CO₂ are emitted globally every second; about 50% of this accumulates in our atmosphere and has become the major cause of global warming. Other signs and reasons include the reduction of oxygen at a rate of 710 tons per second due to excessive consumption, an increase in the world population by 2.4 persons per second, and the exponential increase in the production of materials such as metal, cement, and plastic. In the industrial civilization of the 20th century, economic development inevitably increased the consumption of resources and energy, as well as the discharge of substances that place a burden on the environment. The increased input and output of such substances has made clear the extent of resource depletion and limited ability of earth's ecosystems to absorb and purify substances causing environmental burdens. In the 21st century, giant nations such as China and India are starting to show rapid economic growth with massive consumption of resources and energy accompanied by massive discharges of environmentally burdening substances, following in the footsteps of the OECD nations. On the other hand, as summarized in a recent report by the Swedish government, attempts to uncouple massive consumption of resources and energy and massive discharges of environmentally unfriendly substances from economic growth have failed even in OECD members. This implies that while the world economy grows at a rate of 3% every year, we are heading directly toward the depletion of resources, environmental destruction, and social collapse.

To resolve this problem, we need to promote eco-innovation at every level, including technical, policy, management, and individual lifestyle levels, and disseminate such innovation swiftly into society. The goals are clear: reducing materialism, substituting for hazardous substances, and decarbonization in energy use.

In eco-innovation efforts, it is vital to increase two indicators. One is improving performance per resource input or increasing resource productivity, which expresses the economic added value. The other is eco-efficiency, which indicates improved performance per environmental impact or increased added economic value during the product life cycle. Worldwide, active efforts are being committed to eco-innovation. In 2000, the EU issued the End-of-Life Vehicles Directive to ban the use of lead, mercury, hexavalent chromium, and cadmium. In 2001, the EU published a Green Paper on Integrated Product Policy. Since 2003, based on the Restriction of Hazardous Substances Directive or Energy Using Product Directive Proposal, businesses have been required to prepare ecological profiles of their products. In addition, the Registration, Evaluation, and Authorization of Chemicals Regulation Proposal is further reinforcing chemical substance management. In 2001, Japan enacted the Law on Promoting Green Purchasing to mandate eco-friendly procurement by national and local governments. Meanwhile, the United Nations Environment Programme is striving to spread the cleaner production concept and the Asian Productivity Organization its Green Productivity concept worldwide. All these activities will promote eco-innovation, along with the development of eco-materials, eco-products, and eco-services. Still, no methods for the rapid and explosive spread of eco-innovation to communities have been developed. This document is the first attempt to remedy this lack in Asia. Just as a small ripple can set off a tidal wave, I am convinced that Asia will soon see markedly accelerating trends in Green Productivity, eco-design, and eco-products. Human beings are currently facing an environmental struggle of life-or-death proportions: Which will be achieved first, environmental destruction and social collapse or the development and dissemination of eco-innovation?

Ryoichi Yamamoto

Professor

Institute of Industrial Science, University of Tokyo

Background of the Eco-Products Database

Subcommittee on the Eco-Products Database & Database Working Group

As mentioned in the Foreword, the Green Productivity Advisory Committee (GPAC) (List 1) of the Asian Productivity Organization (APO) decided to compile a database on major eco-materials, eco-components, and eco-products produced in Japan with the aim of disseminating eco-friendly products in Asia and officially distributing it at the first eco-products fair in Southeast Asia, the Eco-Products International Fair 2004, to be held in Malaysia from 2 to 4 September 2004.

To launch the database project, the Subcommittee on the Eco-Products Database (chaired by Ryoichi Yamamoto, see List 2) was set up within the GPAC and the first subcommittee meeting was held in February 2004. The meeting discussed database development methodology, especially standards, companies to be included, specific work methods, and database maintenance and management methods. As a result, it was decided that the Society of Non-Traditional Technology (SNTT) would be requested to cooperate in the compilation work.

Upon receiving this request from the Subcommittee on the Eco-Products Database, the SNTT established a Database Working Group (List 3) comprised of scientists and experts from the University of Tokyo, the National Institute for Materials Science, and the Green Purchasing Network (GPN) to undertake detailed reviews for compiling the databook.

Structure of Databook and Data Collection Methods

The Database Working Group held three committee meetings to review proposed structures for the databook, selection of data to be included, and data format. The results of the review were introduced during the second meeting of the Subcommittee on the Eco-Products Database (April 2004). Finally, basic approval was attained before the actual work began.

The databook structure and data collection methods are as follows:

1. Proposed databook structure

- (1) Definition of eco-material, eco-products, and eco-components
- (2) Development of eco-materials and eco-products in Japan
- (3) Related organizations
- (4) Data
 - I. Eco-materials Classification by material (five categories + composite materials)
 - II. Eco-products 16 product categories, niche products, other features
 - III. Eco-components Semiproducts
- (5) List of companies providing data and their Web sites

2. Data provided per product

- (1) Product name and features
- (2) Description
- (3) Photograph
- (4) Company name
- (5) Web site, etc.
- (6) Category

3. Criteria for inclusion in the databook

- (1) Listed company
- (2) More than 5,000 employees (at least approximately 3,000 employees depending on business area)
- (3) Disclosure of an environment report on the Web site
- (4) Products with top-three market share (according to Nikkei data from autumn 2003)
- (5) Data on other characteristics may be provided based on the decision of the Database Working Group even if the above criteria are not met.

About 700 eco-materials, eco-products, and eco-components manufactured in Japan were included in the databook.

List 1

List of members of the GPAC

List 2

List of members of the Subcommittee on Eco-Products Database

List 3

List of members of the Database Working Group

Green Productivity Advisory Committee

Members List

(As of end of June 2004)

Chairperson

Mr. Yoichi Morishita
Chairman of the Board
Matsushita Electric Industrial Co., Ltd.

Vice-Chairpersons

Mr. Toshio Yonezawa
Representative Director & Executive Vice President
Nippon Steel Corporation
Mr. Masatoshi Yoda
Director, Board of Directors,
Ebara Corporation
Prof. Ryoichi Yamamoto
Professor, Institute of Industrial Science
University of Tokyo

Members

Mr. Seiichi Ueyama
General Manager, Corporate Citizenship Department
Aeon Co., Ltd.
Mr. Eisuke Kumano
President,
Amita Corporation
Mr. Shigeto Yamashita
Producer, Department of Environment Management
Asahi Breweries, Ltd.
Mr. Masaaki Hikida
Director, Corporate Planning Division
Biznet Corporation
Mr. Kiyoto Furuta
General Manager, Environment Planning Department
Cannon Inc.
Mr. Kenzo Shibutani
General Manager, Global Environmental Department
Daikin Industries Ltd.
Mr. Tsutomu Ishibashi
General Manager, Corporate Environmental Management Office
Ebara Corporation
Mr. Hiroyuki Akiyama
Group Manager, Environment Management Group & Corporate
Social Responsibility Group, Corporate Quality and Environment
Management, Fuji Xerox Co., Ltd.
Dr. Nobuo Kamehara
General Manager, Materials & Environmental Engineering
Laboratories, Fujitsu Laboratories Ltd.
Mr. Koji Nakano
Vice President, Global Environment Division
Japan Tobacco Inc.
Mr. Takuya Kadowaki
Manager, Business Project Planning and Marketing Department
JFE Engineering Co., Ltd.
Mr. Tadashi Matsui
Vice President, Headquarter of Environment and Safety
Kao Corporation
Mr. Motoji Ono
Director, Environmental and Social Affairs Department
Kirin Brewery Co., Ltd.
Mr. Kazuya Kojitani
General Manager, Environmental Management Division
Kokuyo Co., Ltd.
Mr. Nobuo Sonoda
Director, Corporate Environmental Affairs Division
Matsushita Electric Industrial Co., Ltd.
Dr. Takaharu Gamo
General Manager, Corporate Environmental Affairs Division
Matsushita Electric Industrial Co., Ltd.
Mr. Shinji Hirano
Senior Engineer, Environmental Preservation Division
Meidensha Corporation
Mr. Yasushi Kawagoe
General Manager, Environmental Division, Marketing Department
Ministop Co., Ltd.
Mr. Takashi Yoshida
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Group, Mitsubishi Electric Corporation
Mr. Toichi Asano
Fellow, Environment Management Division
Mitsubishi Materials Corporation
Mr. Koji Yamaguchi
Vice President and Executive Expert (Environmental Affairs)
NEC Corporation
Mr. Teruo Furuyama,
Senior Manager, Technical Group, Environmental Affairs Division
Nippon Steel Corporation

Mr. Eiji Tada	General Manager, Environmental and Safety Engineering Department, Nissan Motor Co., Ltd.
Mr. Junji Ohsawa	General Manager, Environmental Department Oji Paper Co., Ltd.
Mr. Susumu Nakamaru	Corporate Councilor, Corporate Environment Division Ricoh Company Ltd.
Mr. Nobuo Hashizume	General Administrative Manager, Corporate Environmental & Community Affairs Division Seiko Epson Corporation
Mr. Kazunari Take	Manager, Society/Environment, Corporate Affairs Seiyu, Ltd.
Mr. Hiroshi Morimoto	Deputy Director, Environmental Protection Group Sharp Corporation
Mr. Junzo Ohse	Senior Manager, Environment and Occupational Safety Management Department Shimadzu Corporation
Mr. Ryo Sasaki	President, Shinagawa Chemical Ind. Co., Ltd.
Ms. Mieko Kuwayama	General Manager, CSR Department Shiseido Co., Ltd.
Mr. Hidemi Tomita	Vice President, Corporate Social & Environmental Affairs/Compliance Office Sony Corporation
Mr. Hiroyuki Tada	General Manager, Management Quality Department Sony EMCS Corporation
Mr. Yoshihisa Mizukami	Executive General Manager, Environmental Affairs Suntory Limited
Mr. Masamitsu Komuro	President/Certified Public Accountant Tohmatsu Environmental Research Institute Ltd.
Mr. Takatsugu Kitajima	Manager, Environmental Consulting Group Tohmatsu Environmental Research Institute Ltd.
Mr. Toshinobu Sato	General manager, Environment Department Tokyo Electric Power Company
Mr. Yasunori Takakuwa	General Manager, Environmental Affairs Department Tokyo Gas Co., Ltd.
Mr. Masataka Iwadate	Section Chief, Environmental Affairs, Environment Department Tokyu Corporation
Mr. Kiyoshi Sanehira	Chief Specialist, Environmental Protection Planning Division Toshiba Corporation
Mr. Tetsushi Ito	Manager, Environmental Affairs Division Toyota Motor Corporation

[List 2]

Subcommittee on Eco-Products Database

Members List

Prof. Ryoichi Yamamoto	Professor, Institute of Industrial Science University of Tokyo
Mr. Shigeto Yamashita	Producer, Department of Environment Management Asahi Breweries, Ltd.
Mr. Junji Ohsawa	General Manager, Environmental Department Oji Paper Co., Ltd.
Mr. Tadashi Matsui	Vice President, Headquarter of Environment and Safety Kao Corporation
Mr. Kiyoto Furuta	General Manager, Environment Planning Department Canon Inc.
Mr. Kazuya Kojitani	General Manager, Environmental Management Division Kokuyo Co., Ltd.
Mr. Hiroshi Morimoto	Deputy Director, Environmental Protection Group

Mr. Teruo Furuyama	Sharp Corporation Senior Manager, Technical Group, Environmental Affairs Division
Mr. Kiyoshi Sanehira	Nippon Steel Corporation Chief Specialist, Environmental Protection Planning Division
Mr. Takatsugu Kitajima	Toshiba Corporation Manager, Environmental Consulting Group
Mr. Eiji Tada	Tohatsu Environmental Research Institute Ltd. General Manager, Environmental and Safety Engineering Department, Nissan Motor Co., Ltd.
Mr. Koji Yamaguchi	Vice President and Executive Expert (Environmental Affairs) NEC Corporation
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Mr. Takashi Yoshida	Deputy General Manager, Corporate Environmental Sustainability Group, Mitsubishi Electric Corporation
Mr. Toichi Asano	Fellow, Environment Management Division Mitsubishi Materials Corporation
Mr. Susumu Nakamaru	Corporate Councilor, Corporate Environment Division Ricoh Company, Ltd.

[List 3]

Database Working Group

Members List

Hiroyuki Sato	Green Purchasing Network (GPN)
Gakuji Fukatsu	Green Purchasing Network (GPN)
Katsutoshi Yamada	Ecomaterials Center, National Institute for Materials Science
Hong Nguyen Xuan	Institute of Industrial Science, University of Tokyo
Tomonori Honda	Institute of Industrial Science, University of Tokyo
Ying Wang	Institute of Industrial Science, University of Tokyo
Minako Hara	Institute of Industrial Science, University of Tokyo
Shoko Tsuda	The Society of Non-Traditional Technology
Wakako Suetsugu	The Society of Non-Traditional Technology
Yuko Shimizu	The Society of Non-Traditional Technology

Eco-materials, Eco-components, Eco-products - What are they? -

The term “eco” originally came from two words, “Environment” and “Consciousness”. It has been widely used with “material” “product,” or “service” in Japan to indicate that those materials, products, or services take environmental impacts into account throughout their life cycle.

1. Eco-materials

The term “eco-materials” was first introduced to Japan by Professor Ryoichi Yamamoto and his colleagues at the University of Tokyo in 1991 as a proactive measure to respond to the movement for sustainable development. Eco-materials are defined as those can contribute to environmental improvement throughout their life cycle, while maintaining acceptable performance. The environmental performance of eco-materials can be improved by:

1. Avoiding and/or reducing the use of non-renewable and less abundant resources;
2. Enhancing the closed material loop by recycling and reusing waste;
3. Increasing resource efficiency, including that of energy and materials;
4. Using more durable materials with fewer maintenance requirements;
5. Promoting the use of renewable resources and energy; and
6. Minimizing impacts on biodiversity and eco-systems.

In other words, eco-materials are a key concept in material science and technology to minimize environmental impacts, enhance the recyclability of materials, and increase energy and material efficiency. Eco-materials can enhance the development of eco-products as well as the promotion of the green procurement movement in Japan and other parts of the world.

2. Eco-components

The term “eco-components” as defined in this book refers to those used as components or parts of eco-products. Eco-components can be one of the essential, functioning parts of a subsystem or equipment, or a combination of parts, assemblies, attachments, or accessories of an eco-product. They are sometimes called semi-products and used as inputs in eco-product manufacturing.

Similar to eco-materials, eco-components are produced with consideration of environmental impacts through the whole life cycle. As a result, the six factors improving the environmental performance of eco-materials can also be applied to eco-components. Eco-design or life cycle design concepts, methodologies, and tools are also used in the production of eco-components. In addition, eco-components can contribute to the manufacture of eco-products through eco-design by designing for disassembly, upgradability, and waste prevention.

3. Eco-products

Eco-products are designed according to the eco-design concepts and principles. In other words, eco-products are products with environmentally friendly features. Life cycle concepts and engineering play a very important role during the development phase of eco-product manufacture. Eco-products are made from improved raw materials including the use of recycled or biomass materials. In addition, during the production process, minimal energy and water resources are used while emitting less waste and pollutants. In the consumption phase, the use of eco-products can result in energy and water savings, emission minimization, and reducing waste and the need for waste treatment. Eco-products are also designed to ensure that their materials and components can be recovered and recycled.

In Japan, eco-products normally bear eco-labels, classified as type I, type II, or type III according to ISO 14020 standards. In addition, products listed in the database of the Green Purchasing Network are also considered to be eco-products.

While the economy is shifting from the production of goods toward services, eco-products can be transformed into services to improve resource productivity and eco-efficiency.

Categories

Recently, many eco-products have been developed in Japan. Eco-labelling (types I to III) has been introduced to standardize or evaluate these products. The classification of available eco-products into categories and the compilation of a databook on such products should aid both consumers and companies in using and developing eco-products easily and appropriately. Based on this objective, information collected on eco-products was categorized from three perspectives: A) environmental load; B) environmental performance index; and C) life cycle stage. These categories are considered useful for investigating the effects that eco-products have on which environmental loads, with what level of eco-performance, and at which stage.

For category A, products were categorized according to the environmental impact reduction with the use of eco-products. Among various environmental problems currently observed, products were grouped according to their impact on the following five: global warming as a global environmental problem; air pollution as a local environmental problem; the issue of hazardous substances; management of waste due to landfill site limitations; and the consumption of resources due to Japan's dependence on other countries for most. Details of the classification are as follows:

- A1. **Global warming** : Products effective for reducing greenhouse gases such as CO₂ which cause global warming. The category includes products with energy-saving effects and those that contribute to decreasing deforestation, in addition to products that directly reduce the discharge of greenhouse gases.
- A2. **Air pollution** : Products that reduce the discharge of air pollutants such as nitrogen oxides, sulfur oxides, and suspended particulate matter, discharge of which is restricted by the Air Pollution Control Law and other governmental regulations. The category also includes products with properties promoting air cleaning.
- A3. **Hazardous substances** : Products with actions to reduce the discharge of substances affecting the human body and ecology such as substances subject to the Law Concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management (PRTR Law).and material safety data sheet. The category includes products that use hazardous substances in lesser amounts or which use no hazardous substances at all, as well as certain products composed of hazardous substances which can be reused/recycled.
- A4. **Waste** : Products that reduce the final disposal amount. They include those with reduced volume or weight and those supported by reuse/recycling systems.
- A5. **Resource consumption** : Products that reduce the consumption of resources such as minerals, wood, water, etc. They include those using few resources in the product itself or in the manufacturing process and those that can be reused/recycled efficiently.

In category B, products were categorized based on the environmental performance required for resolving the environmental problems in "A" above. The following seven environmental performance indices were selected:

- B1. **Recyclability** : Index of the ease of recycling. The category includes products that are easy to disassemble and classify for reuse and recycling and those designed so that recycling can be carried out efficiently.
- B2. **Longevity** : Index of longer life for conventional products. The category includes products designed for longer-term use and those of which the use can be extended by repair.
- B3. **Resource saving** : Index of resource saving for conventional products. The category includes products designed to save resources by reducing product weight or enhancing product design efficiency.
- B4. **Higher quality** : Index of enhanced quality for conventional products. The category includes those effective for improving the environment due to enhanced quality and services (environmental efficiency) achieved for the same environmental loads.
- B5. **Energy saving** : Index of energy saving for conventional products. The category includes those made

under an efficient process design, those that have been made lightweight, or those designed to reduce energy consumption during use.

B6. Environmental purification : Index of products with the function of cleaning the environment. The use of these products should detoxify hazardous substances or waste in the environment and recycling systems.

B7. Usage of recycled materials : Index of the enhancement of the rate of use of recycled resources for conventional products. The category includes products that use recycled resources in the products themselves or during the manufacturing process.

Furthermore, as it is preferable that measures for environmental problems be implemented in the entire product life cycle, for category C products were distinguished by life cycle stage as measured using the life cycle assessment method. The following six life cycle stages were selected:

C1. Materials extraction : Stage for mining resources used for products in mine sites. The category includes facilities for reducing environmental impact in this stage.

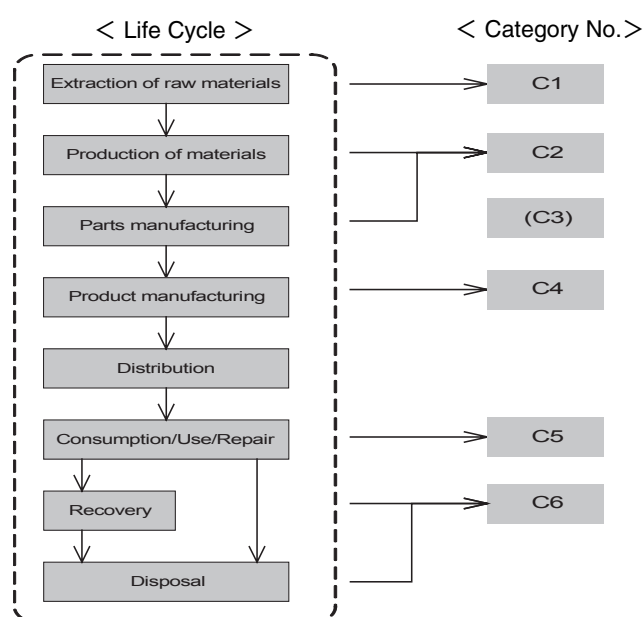
C2. Materials and components production : Manufacturing stage of half-finished products in general, such as primary products and parts serving as the material for products. Products in this category include half-finished products and products designed to reduce the environmental load in the manufacturing process.

C3. Design and materials selection : Stage in which parts and materials are selected and products are designed. The category includes those made of parts and materials that are eco-friendly or designed taking the environment into consideration, and eco-products based on design.

C4. Products manufacture : Stage in which products are manufactured using parts and materials. The category includes products reducing the environmental load during the manufacturing process.

C5. Product use, Maintenance and Repair : Stage in which manufactured products are used by consumers, including prolonged use due to repair. The category includes products with a reduced environmental load during use such as energy-saving products, products cleaning the environment during use, products of which the life can be prolonged by repair, and long-life products.

C6. End-of-life : Stage in which products are disposed of/recycled after use. The category includes products with low final disposal amounts, those easy to break down, those with high reusability/recyclability, and products with recycling systems.



Figuer Conceptual outline of a product's life cycle stages.

As shown in Figure 1, Eco-design development trends are shifting from products to services, from the old industrial economy to the new service economy. The importance of system-oriented approaches and concepts has increasingly been emphasized in the later phases of development.

1.2 Eco-materials

In the beginning, the eco-material concept focused on the development of materials that could contribute to environmental conservation and protection. Environmental issues and functional properties of materials were considered, including structural materials used in construction or automobile manufacture and special functional materials such as semiconductors or solar cells. Eco-materials now include the socioeconomic aspects, as shown in Figure 2. Halada and Yamamoto [1] stated that there are three dimensions to eco-materials: 1) expanding human frontiers or functional properties; 2) coexistence with the environment; and 3) optimizing amenities or socioeconomic performance.

A further development of the eco-materials concept by Yagi [2] was based on the ten superior properties of eco-materials (Figure 3). This is considered one of the most comprehensive definitions. From the viewpoint of material science and engineering, an eco-material should have at least one of those ten superior properties compared with conventional materials. A more detailed explanation of those properties of eco-materials is given in Box 1. As a result, a very wide range of eco-materials has been developed in various industries such as iron and steel, electronics, chemicals, paper, construction, textiles, and polymers.

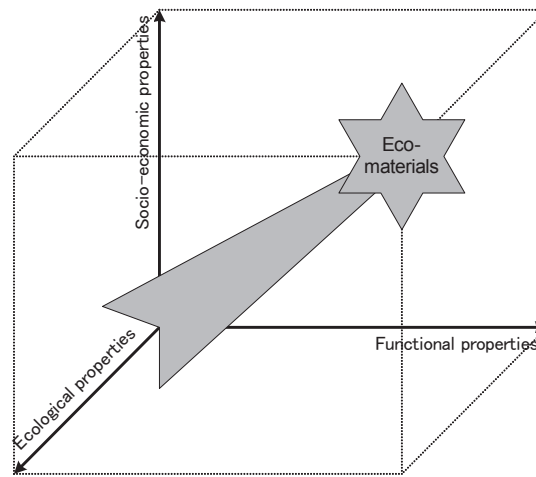
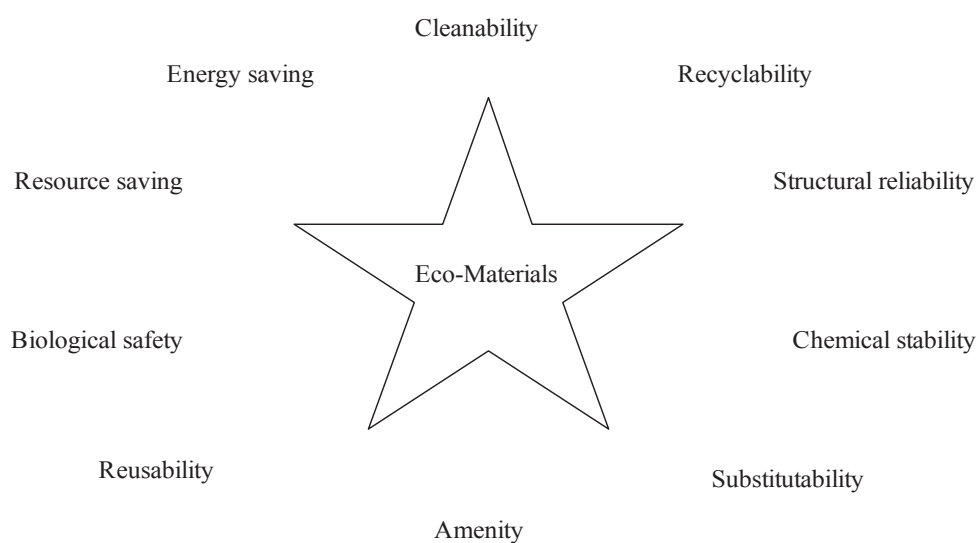


Figure 2 Three dimensions of the eco-materials concept



Source: Yagi K., 2002, *Proc. Int. Workshop on Ecomaterials*, Feb. 6-8, 2002, Tokyo, Japan, pp.1-4.

Figure 3 Superior properties of eco-materials in the 21st century

Recently, the Eco-materials Forum in Japan has started an eco-materials guideline project to develop a standardized concept of and criteria for the evaluation of eco-materials. The conceptual definition of eco-materials in this project is: “Eco-materials are those that can contribute to reduction of environmental burden throughout their life cycles” [3]. In other words, any material can be an eco-material as long as it satisfies prerequisites (I) and the necessary conditions for eco-materials (II and/or III) in Figure 4. The prerequisites of eco-materials include the optimization of physical and/or chemical properties and superior technical performance (I in Figure 4). The necessary conditions are: significant environmental improvement compared with conventional materials (II); and no tradeoff of the environmental load throughout the whole life cycle, and if there is a tradeoff, all life cycle environmental data must be available to verify the improvement of environmental performance (III).

It should be noted that the entire life cycle impacts of eco-materials must be considered and improved. Condition II includes six vectors: 1) green resource profile; 2) minimal environmental impact during the material manufacturing process; 3) high productivity in use; 4) minimal use of hazardous substances; 5) high recyclability; and 6) high environmental purification efficiency. It is not necessary for an eco-material to include all six vectors, but it must include at least one.

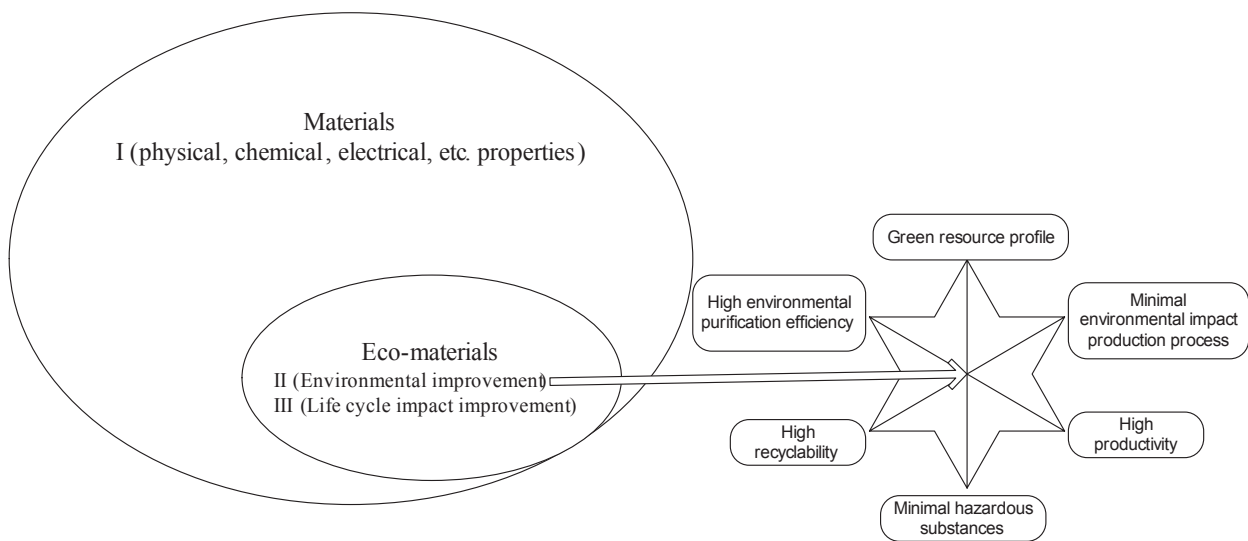


Figure 4 Conceptual model of eco-materials within the context of material sciences

Box 1 Definitions of superior properties of eco-materials

1. **Energy-saving ability** reduces the total life cycle energy consumption of a system or device.
2. **Resource-saving ability** reduces the total life cycle material consumption of a system or device.
3. **Reusability** allows the reuse of collected products for similar functions.
4. **Recyclability** allows the use of collected products as raw materials.
5. **Structural reliability** determines the basic mechanical integrity.
6. **Chemical stability** allows the material to be used over the long term without chemical degradation.
7. **Biological safety** allows use with no negative effects on ecological systems.
8. **Substitutability** allows use as an alternative to “bad” materials.
9. **Amenity elements** ensure the comfort of the working environment
10. **Cleanability** allows a pollutant to be separated, fixed, removed, and detoxified in environmental treatment processes.

In addition to the development of methodologies and tools, several books on eco-materials have been published in Japanese to help practitioners, students, and other interested persons apply the concept, methodologies, and tools. The latest, an eco-material selection guideline, was published in June 2004.

Along with the publication of books, an eco-material international conference has been held every two years in Japan, China, and the USA. These conference provides a good opportunity for materials researchers and industrial engineers to exchange ideas related to eco-materials. In 2003, the fourth eco-material conference was held in Yokohama, Japan, which attracted more than 150 presentations including 26 invited lectures. In 2005, the fifth international conference on eco-materials will be organized in Singapore.

1.3 Eco-components and Eco-products

Similar to eco-materials, the prefix “eco” in eco-components and eco-products originally denoted that they were environmental consciousness or ecologically sound. It also reflected economic issues in later phases of development. The concept of eco-components and eco-products in Japan began to develop in the 1980s, along with the development of the eco-design concept, methodologies, and tools. Several definitions have been introduced by various organizations and industries under three different auspices: the Green Purchasing Network (GPN), type I and type II eco-labelling, and eco-product exhibitions. In other words, there are numerous criteria for eco-component and eco-product evaluation. Almost every large Japanese company such as Sony, Canon, Panasonic, NEC, and Toyota has its own criteria. In addition, each product category may also have different criteria. For example, NEC has 24 eco-product standards to evaluate its products [4]. However, they all share such common aspects as resource and energy saving, recyclability, use of recycled materials, longevity, and ability to contribute to environmental purification processes. These common aspects have been described in eco-design guidelines or in ISO standards on eco-labelling (ISO 14020 to ISO 14025).

The first set of eco-products was introduced in 1989 when the Eco-Mark Program was established [5]. The Eco-Mark Program is classified as type I eco-labelling according to ISO standards. The number of certified products reached more than 5600 in 2003, up from 265 in 1989. In addition, Eco-Mark product categories also increased from 14 in 1989 to 59 in 2003. Two basic requirements for Eco-Mark products are 1) the minimization of environmental impact during the manufacturing, use, and disposal phases compared with similar products; and 2) the reduction of environmental impact by any means. Furthermore, the Eco-Mark criteria for eco-products depend heavily on the life cycle concept. The product life stage covers from resource extraction to manufacturing, distribution, use and consumption, disposal, and recycling. A total of nine environmental aspects are taken into account during the development of product criteria:

1. Resource consumption;
2. Discharge of greenhouse gases;
3. Discharge of ozone layer-depleting substances;
4. Deterioration of eco-systems;
5. Discharge of atmospheric pollutants;
6. Discharge of water pollutants;
7. Discharge/disposal of solid waste;
8. Use/discharge of hazardous materials; and
9. Other environmental impacts.

In addition to the basic requirements for Eco-Mark products, environment-related laws and regulations are another important issue in developing these criteria to ensure the compliance of products with regulations. All Eco-Mark products must comply with laws and regulations. The quality of Eco-Mark products is crucial and included in the product criteria.

A few years after the introduction of the Eco-Mark Program, several companies introduced their own criteria for eco-products. These are classified as type II eco-labelling [6]. In the beginning of concept development, most criteria for eco-products focused on one or two environmental aspects including energy saving and/or compliance with laws and regulations. In the later phase, environmental and economic aspects have increasingly been included, especially since the start of the Factor X Program in Japan with the participation of more than 50 companies. The criteria for type II eco-labelling vary by company. Companies participating in the Factor X Program such as Mitsubishi, Matsushita Electric, Hitachi, Toshiba, Canon, and Fujitsu have developed their own calculation methods for type II eco-labels. The details of eco-efficiency or the Factor X Program are explained in section 2.4. Other companies such as NEC have also developed standards to evaluate their eco-components and eco-products. The details vary and depend on the focus of the company. However, the three main concerns of global warming, resource efficiency, and energy efficiency are found in most criteria sets.

In addition to eco-labelling programs, the GPN and the enactment of the Green Procurement Law in Japan have played a major role in eco-product development [7]. In 1994, the Shiga prefectural government

was the first local government in Japan to introduce comprehensive guidelines on green purchasing. Two years later, the GPN was established to promote the green purchasing concept and activities. In 2000, the Japanese government enacted the Green Procurement Law. Under the law, all state institutions must follow its stipulations in the purchase of 14 product categories such as copy and printing paper, stationery and office supplies, office furniture, electronic appliances, and others. The criteria for each product category were mainly based on those of the Eco-Mark Program and GPN criteria or on existing governmental targets.

2. Methodology and tools for eco-materials and eco-products

2.1 Eco-design manuals

During the history of eco-design, it has been referred to using many terms, such as Design for the Environment, Green Design, Eco-Redesign, life Cycle Design, Environmentally Conscious Design, or Design for Sustainability. Numerous series of eco-design manuals have been published worldwide, and about 20 have been published since 1994. In addition, some 60 eco-design tools are available. In Japan, more than 10 eco-design manuals have been published in Japanese either as original or translated versions.

In 1997, the UNEP published *Eco-design: A Promising Approach to Sustainable Production and Consumption* [8]. Known as the *PROMISE Manual*, it was intended to be used by product designers and developers. The manual was based on academic R&D on Design for the Environment at the Technical University of Delft (TU Delft). The manual has been widely recognized as the most comprehensive and relevant to the eco-efficiency of materials, components, and products.

The *PROMISE Manual* was mainly based on a qualitative evaluation model consisting of a comprehensive checklist of eight strategies at four levels of product development and 33 sub-strategies (Figure 5). This qualitative approach was intended to stimulate creative solutions at the most basic level of product design including material selection, production forms, and process choices. In addition, the manual includes a continual improvement procedure (Plan-Do-Check-Act), worksheets for planning and analysis, examples, and a resource guide. The primary focus of this manual is on manufactured goods. Many of the strategies, however, could be applicable to services as well.

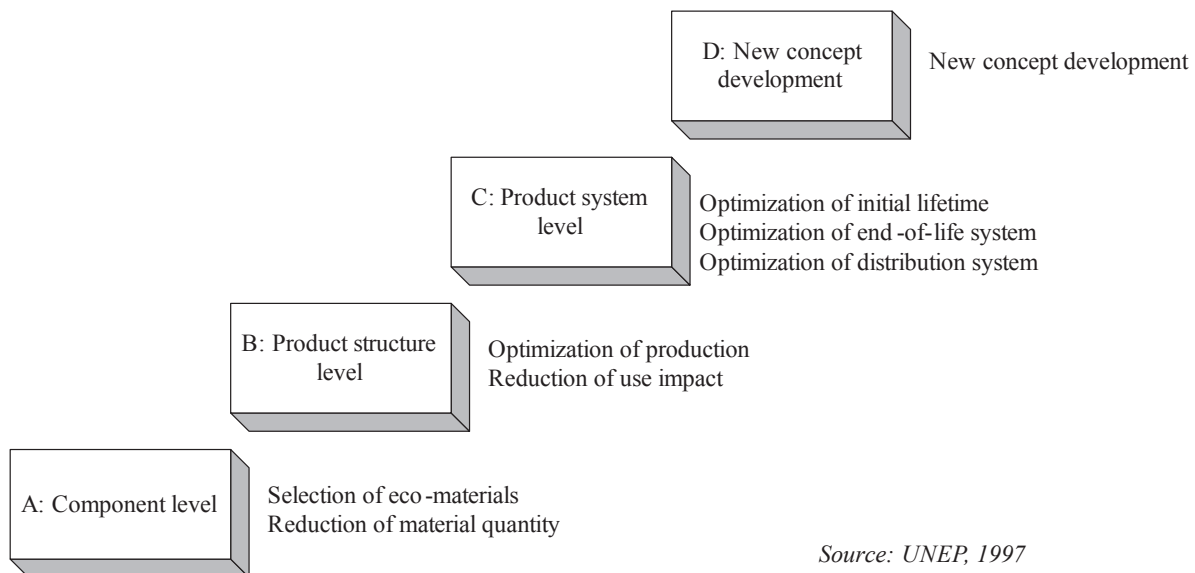


Figure 5 Four levels of eco-design strategies in the *PROMISE Manual*

A few years after publication of the *PROMISE Manual*, the UNEP and TU Delft decided to publish a new manual on eco-design, which will be completed in 2004. The Japanese version of the new manual is expected to be available in 2005. It will not completely replace the *PROMISE Manual*, but will offer updated information and include new areas of eco-design such as eco-innovation and eco-benchmarking (Figure 6). Eco-benchmarking will ensure improvements in eco-products compared with existing or previous products. Eco-innovation will steer product designers or developers in the appropriate direction of new eco-products, newly emerging markets, and the use of sustainable technologies during the product development phase.

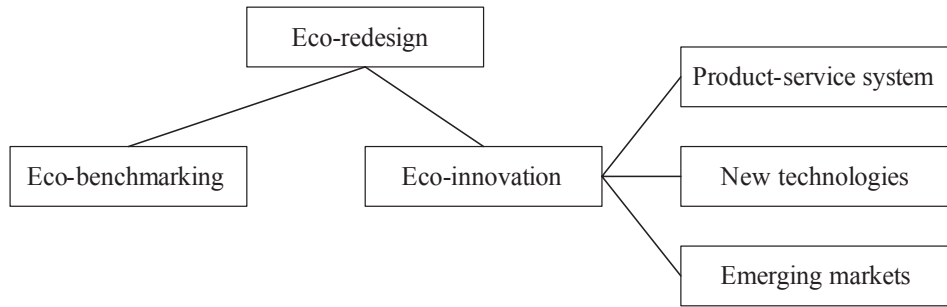


Figure 6 Basic structure for eco-design in the new UNEP/TU Delft manual

In addition to eco-redesign, eco-benchmarking, and eco-innovation modules, other supporting modules such as product-oriented environmental management system (POEMS), internal and external drivers, sustainable consumption, and communication will be added in this manual. Each module will include four levels to meet the specific needs of different users. The first level (A) provides a basic introduction to the topic. This level is useful for top and middle management level. The second level (A+) gives more in-depth information and the theory of the topic, which are meant for middle managers, students, trainers, and academics who wish to examine further details. The third level (B) consists of tools and skills needed for eco-design projects. Level B is for students, academics, trainers, and product designers. Finally, level C explains how to implement the eco-design concept, tools, and skills in an organization or company.

2.2 Eco-material classification

Some researchers tried to classify eco-materials from the viewpoint of the LCA concept. New developments in materials or eco-materials should be viewed in the full context of sustainability. A recent study by Nguyen et al. proposed a new eco-material classification from the perspective of sustainability The Natural Step [9]. This classification method is based on four sustainable principles, in which eco-materials are classified as: 1) cyclic materials; 2) materials for ecology and environmental protection; 3) materials for society and human health; and 4) materials for energy based on the two main criteria of source and function. These four main categories are then further classified into ten sub-categories (Figure 7).

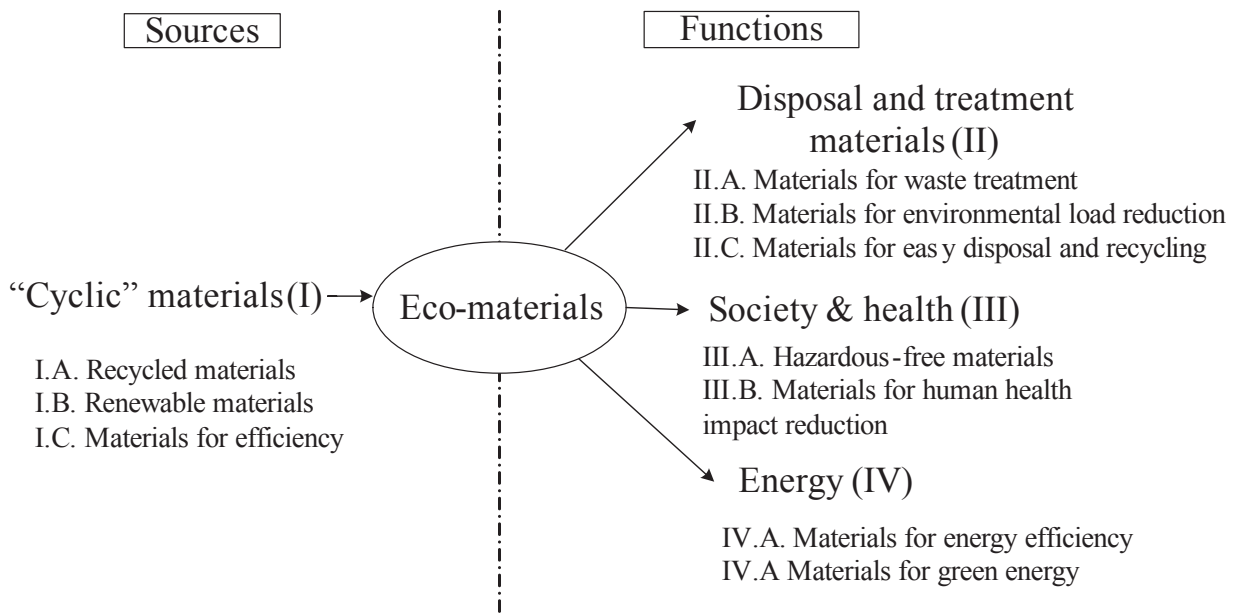


Figure 7 Nguyen et al.'s classification model for eco-materials

Qualitative assessment and classification of 359 identified commercial eco-materials were carried out during the research of Nguyen et al. Examples of eco-materials are shown in Table 1. As illustrated

in Figure 8, the main focus of Japanese industries in material development is “cyclic” materials, which accounted for 31% of the total. This was done by developing recycled materials and increasing the efficiency of material usage through increased wear resistance or longevity, or process simplification. The second issue is related to health, classified in the materials for society and health category (accounting for 29%). Hazardous free materials such as lead-free soldering material, halogen flame-retardant-free plastics, and chromium-free steel received great attention in this category. In the materials for energy category, accounting for 22%, effort is made to increase energy efficiency by reducing the weight of materials for automobiles such as by using ultra-light steel and aluminum-magnesium lightweight alloys. In the disposal and treatment category, accounting for the remaining 18%, biodegradable plastics, catalysts, and biological membranes, and microbial enzymes are among several eco-materials commercially available in Japan.

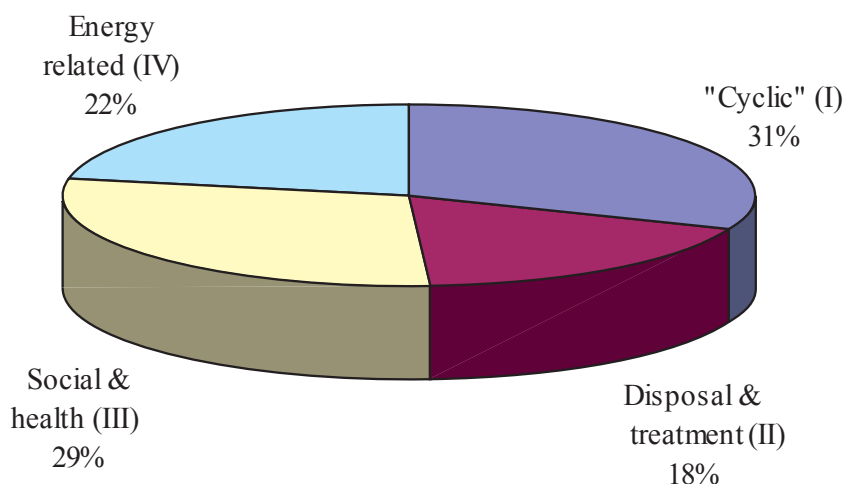


Figure 8 Distribution of eco-materials among the four groups of Nguyen et al

Table 1 Examples of eco-materials currently available commercially in Japan

Sub-category	Example
I.A: Recycled materials	Eco-cement, coal ash concrete, glass ceramics from waste, recycled plastics, silica fertilizer, marine tetra blocks
I.B: Renewable materials	Wood ceramics, wood-based materials, soil ceramics, biodegradable plastic made from vegetable base
I.C: Materials for efficiency	Waste reduction materials, wear-resistant metals and alloys, prepainted steel, corrosion-resistant steel and alloys
II.A: Materials for waste treatment	Membranes for exhaust gas separation, ion-exchange resins, microbial enzymes, absorbent materials for oil and grease removal
II.B: Materials for reduction of environmental load	Catalysts and biological membrane materials for fuel cells, carbon-fiber composites, photo-catalyst coating materials for construction
II.C: Materials for easy disposal or recycling	Biodegradable plastics, functionally graded material, colorbetos to replace asbestos, Toyota super olefin plastic (TSOP)
III.A: Hazard-free materials	Lead-free soldering, halogen flame retardant-free plastics, chromium-free steel, volatile organic compound-free adhesives, heavy metal-free polyesters
III.B: Materials for reducing human health impacts	Vibration-damping steel sheets, soundproof panels, antibacterial coating materials, surgical bone-ceramics
IV.A: Materials for energy efficiency	Ultra-light steel, aluminum-magnesium lightweight alloys, heat-resistant alloys for turbines, high magnetic-induction steel sheets, highly endothermic steel, chromo-phobic fibers, heat mirror film for household energy saving
IV.B Materials for green energy	High-grade silicon for solar cells, thermoelectric conversion materials, selective transparent glass, durable sealing sheets for solar batteries

The classification of eco-materials using the principles and concepts of sustainability can help product designers understand the current development status in this field. It also helps strategic environment

planners take the right directions during the planning phase. This assessment will also promote green purchasing programs that are currently popular in Japan.

2.3 Eco-materials guidelines

As indicated above, numerous eco-materials have been commercialized in Japan. These eco-materials were judged by various definitions and criteria that were sometime incompatible. The need to introduce standardized criteria to define and evaluate eco-materials prompted Japanese scientists and engineers to initiate a project called the “eco-materials guidelines” under the Eco-materials Forum. Qualitative guidelines have recently been introduced as the outcome of that project. For company to determine whether its materials are eco-materials, it must use a qualitative checklist including the six vectors shown in Figure 4 and the entire life cycle, as illustrated in Figure 9. After covering all six vectors on the checklist, any doubts are resolved when company personnel and experts double-check using the LCA method. In this case, a cradle-to-grave life cycle inventory process is carried out to verify the results.

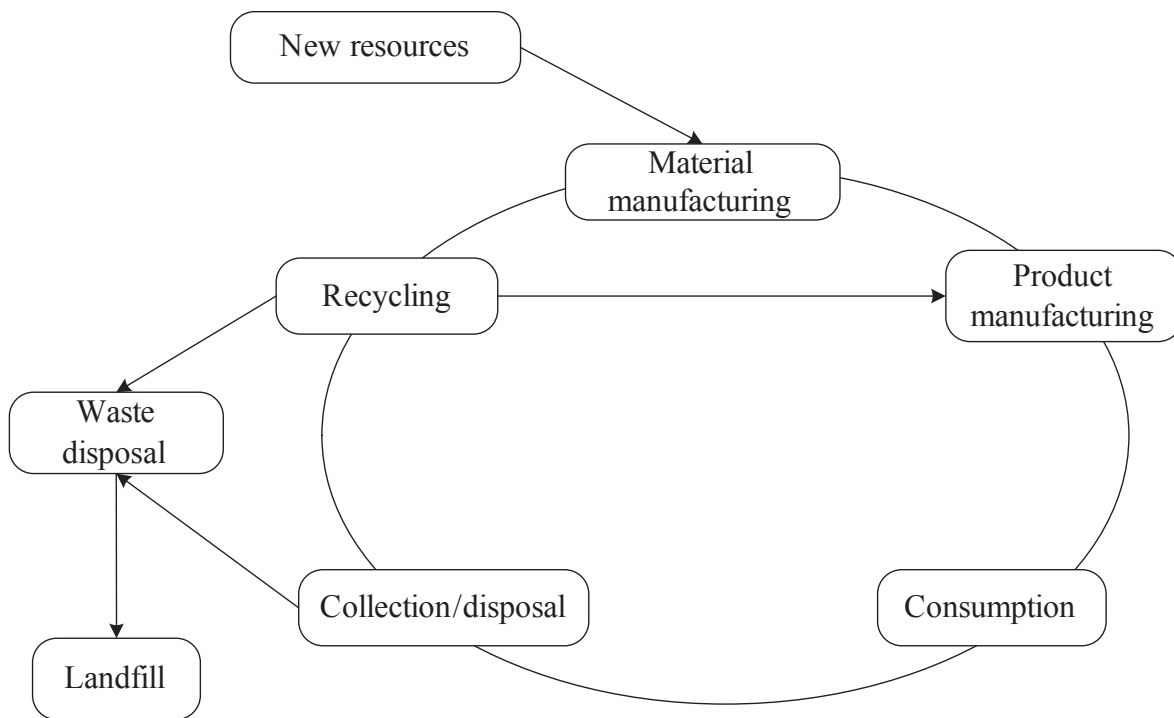


Figure 9 Life cycle stages in the new Eco-materials Forum eco-material guidelines

2.3.1 Green resources profile

The green resources profile is related to both the new resource and recycling stages. The main question is whether “materials are from resources with a green resource profile” [3]. The four major issues in such a profile are:

- 1) Reducing the use of nonrenewable resources;
- 2) Substituting nonrenewable with well-managed renewable natural resources;
- 3) Reducing the use of renewable natural resources; and
- 4) Increasing the use of recycled resources.

Several quantitative indicators can be used, including total material requirement (TMR), material intensity (MI), ecological footprint (EF), and ratio of recycled materials used.

2.3.2 Production process with minimal environmental impacts

Production processes involving minimal environmental impacts are related to the four life cycle stages of material manufacturing, product manufacturing, recycling, and waste disposal. The main question is whether “materials are fabricated, disposed of, and recycled through a process with low environmental impact” [3]. The seven major issues are:

- 1) Reducing CO₂ emissions during material manufacturing processes;
- 2) Reducing emissions of pollutants during material manufacturing processes;
- 3) Increasing production yields;
- 4) Reducing energy and input materials during product manufacturing processes;
- 5) Reducing energy and input materials during the recycling process;
- 6) Reducing energy and input materials during the waste disposal stage; and
- 7) Reducing landfill areas.

Quantitative indicators for this aspect could include the CO₂, SO_x, and NO_x emissions, energy consumption, and material productivity.

2.3.3 High productivity

High productivity is related to the consumption stage of the whole life cycle of materials. The main question is whether “materials can exhibit high productivity in the applied product” [3]. Major issues are:

- 1) Reducing energy and input material at the consumption stage; and
- 2) Enhancing the reuse and longevity of materials and products.

Quantitative indicators could be energy and material efficiency during the consumption stage.

2.3.4 Minimal hazardous substances

Minimizing the use of hazardous substances involves the material manufacturing, collection, and recycling stages. The main question is whether “materials could reduce the emission of hazardous chemical substances from the product and its waste” [3]. Major issues are:

- 1) Reducing the use of hazardous or potentially hazardous substances; and
- 2) Establishing a collection system for hazardous chemical substances from used products.

Quantitative indicators of this aspect could be the total amounts of hazardous substances used and released in these life cycle stages. Information on hazardous substances could be obtained using the pollutant release and transfer register (PRTR) approach.

2.3.5 High recyclability

High recyclability is related to the material manufacturing and recycling stages. The main question is whether “material could contribute to efficiency recycling” [3]. Major issues are:

- 1) Increasing the ratio of recycled resources;
- 2) Enhancing the ease of separation and recoverability of other products;
- 3) Establishing a closed-loop recycling system; and
- 4) Enhancing an open-loop recycling system.

A quantitative indicator could be the ratio of recycled over virgin material.

2.3.6 High environmental treatment efficiency

High environmental treatment efficiency involves the consumption stage. The main question is whether “material can increase the efficiency of environmental treatment or purification processes” [3]. Major issues are:

- 1) Purifying volatile organic compounds (VOCs) or sick-building syndrome organic compounds in the living environment;
- 2) Removing hazardous substances in contaminated environments (air, water, and soil); and
- 3) Removing hazardous substances from exhaust gas.

2.4 Eco-efficiency and Factor X

Eco-efficiency and Factor X are normally used as indicators for eco-materials, eco-components, and eco-products for decision making or communication to stakeholders. The term eco-efficiency was coined by the WBCSD in 1992 [10]. The eco-efficiency of products or services was defined in a WBCSD report as:

$$\text{Eco-efficiency} = \frac{\text{Product or service value}}{\text{Environmental influence}}$$

Since then, many Japanese companies have shown interest in further development and implementation of these indicators. Eco-efficiency methods in Japan can be classified into two main categories: those at the company or factory level and those at product or service level.

2.4.1 Company level

Many Japanese companies such as Sony, NEC, Ricoh, and Fuji Xerox have been effectively using eco-efficiency indicators to inform their environmental management and performance. The most effective eco-efficiency indicators used are sales revenue and environmental impact. However, each company's indicator is slightly different in terms of system boundaries (gate-to-gate or life cycle basis) and the environmental impact categories selected.

2.4.2 Product or service level

A national project on eco-efficiency has been carried out by the Japan Environment Management Association for Industry (JEMAI) on Factor X since 2001. The aim is to define the factors (indicators or indices) for products and services which could be used by Japanese industries. The two main focuses in the Factor X Program are resource productivity and environmental efficiency (Table 2). Many large Japanese companies participate in this project, including Mitsubishi Electric, the Matsushita Electric Group, Hitachi Ltd., Canon Corporation, Ricoh Corporation, Japan NTT, Fujitsu Company, and other electronics companies.

Among these companies, the Matsushita Electric Group has been actively developing the Factor X methodology and tools. Recently, the group has introduced its own Factor X method [11] focusing on greenhouse gas efficiency, resource efficiency, and specific chemical substances. The company has used its Factor X tool to evaluate more than 50 of its commercial products. Most products achieved a factor of greater than 2, with an exceptional factor of 18.5 for a fax machine for greenhouse gas efficiency. Resource efficiency has increased by a factor of less than 2 for most products. Matsushita has set the target of factor 4 for all products, and by 2010, average greenhouse gas and resource factors should increase by 1.5- and 1.7-fold, respectively, compared with products in 2000. The eco-innovation progress can be easily understood by both business leaders and consumers by using factor X values.

Table 2 Factor X indicators

Resource productivity			
Numerator	Product or service value	Optional	Economic value, physical amount, specific function
Denominator	Environmental impact	Mandatory	Energy consumption
Environmental efficiency			
Numerator	Product or service value	Optional	Economic value, physical amount, specific function
Denominator	Environmental impact	Mandatory	CO ₂

2.5 Life cycle assessment methodologies and database

At the moment, only three LCA database centers have been established (in Germany, Japan, and China). In Japan, the national LCA project has been carried out since 1997 by JEMAI. The objectives of this project were to develop a Japanese LCA methodology based on endpoint modeling and a database library. The Japan LCA methodology, called the Life Cycle Inventory Assessment Method Based on Endpoint Modeling (LIME) was introduced to industry in March 2003. In addition to the development of methodology, LCI data were collected. Transparent, reliable LCI data on approximately 250 industrial product categories were voluntarily obtained from 56 industrial associations in Japan in the LIME project. The system boundary for these data was set as "gate to gate." A total of 14 substances (CO₂, CH₄, hydro fluorocarbon, poly fluorocarbon, N₂O, SF₆, NO_x, SO_x, dust, biological oxygen demand, chemical oxygen demand, total P, total N, and suspended solid to air or water) were included in the LCI database library. In addition, three types of LCIA factor lists for characterization, endpoints, and weighting are published in the database. However, at this time, it is available only in Japanese (<http://lcadb.jemai.or.jp/>).

In addition to LIME, another LCA method called JEPIX or Eco-indicator Japan has been developed by the Japan Science and Technology Agency. This method is based on the Swiss Eco-Scarcity method (distance-to-target approach).

2.6 Green procurement guidelines

One of the major players in the green procurement movement in Japan is the GPN. This network was established in 1996 with the ultimate goal of promoting green procurement in Japan. As of March 2004, it had 2,889 organizational members including corporations, consumer associations, environmental NGOs, and cooperative associations. The main activities of the network are to promote green procurement movements, introduce purchasing guidelines, and publish an Internet-based GPN database and databook on eco-products [7]. Most major companies such as Matsushita, Sony, Canon, Toyota, Honda, and Fuji Xerox are members of this network. In addition, all municipal and prefectural governments joined the GPN to enhance the effectiveness of green purchasing activities. The organizations in the network share a commitment to reducing environmental impacts through green purchasing.

2.6.1 Principles of green purchasing

The GPN introduced its four principles of green purchasing as guidelines for consumers and institutional purchasers to ensure responsibility in purchasing. These principles were finalized after receiving comments from thousands of members. The latest version of these principles was introduced in 2001. The first principle is the necessity of purchasing. The need for any specific product should be carefully considered before purchasing. The second principle is to consider carefully “various environmental impacts over its life cycle.” The environmental impacts include energy consumption, resources, global warming, ozone depletion, air and water pollution, and waste generation. The third principle suggests that purchasers consider the environmental performance of suppliers. The final principle states that purchasers should collect all available environment-related information on products as well as on suppliers before making a final decision. These principles have been adopted by several organizations and consumers. In addition, big corporations and organizations have introduced their own green purchasing policies based on these principles.

2.6.2 Purchasing guidelines

Based on its principles of green purchasing, the GPN has also introduced specific purchasing guidelines for each category of products. So far, 17 guidelines have been established including those for copy/printing paper, copiers, printers, facsimile machines, toilet paper, tissue paper, personal computers, refrigerators, stationery and office supplies, washing machines, light-bulbs and devices, motor cars, air-conditioners, office furniture, TV sets, uniforms and work wear, and hotels and inns.

2.6.3 Japan Green Procurement Standardization Initiatives

At this stage, many big companies in Japan have introduced their own green procurement guidelines. One of major problems in green procurement activities is information on the use of chemicals. A recent survey of 10 electronics companies in Japan reported that about 2500 different chemicals were currently used and controlled at company level. Purchasers need fast, reliable, and accurate information on these chemicals to ensure that they make the right choice. As a result, there is a need to introduce standardized green procurement guidelines. In 2001, a national project on the Japan Green Procurement Standardization Initiatives was voluntarily launched by about 53 big companies. In July 2003, the first guidelines for standardization of material declaration were introduced. They included 29 chemical substance groups such as heavy metals and compounds and halogenated compounds to be carefully surveyed. The project also introduced a manual, survey tool, and data confirmation tool that could be used by interested companies.

2.7 Eco-labelling programs


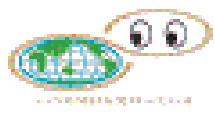
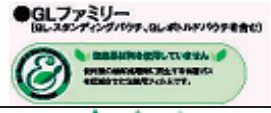





The use of environmental labelling (or eco-labelling) to provide information on the environmental performance of products and services has become popular in recent years. In Japan, all three types of eco-labelling (I, II, and III) are now used. Among 14 different type I eco-labels, the most popular is the Eco-Mark introduced by the Japan Environment Association. The Eco-leaf is the only type III eco-label, while numerous type II eco-labels are on the market.

The Eco-mark (type I eco-label) was started in 1989 with only seven product categories, such as “aerosol products that use no specified chlorofluorocarbons.” Since then, the Japan Environment Association has expanded the number of product categories, and Eco-marks had been awarded to 5618 certified products in 59 product categories as of September 2003 [5].

In addition to type I eco-labelling, various Japanese companies have established their own eco-labels. By 2002, more than 30 Japanese companies had information on their Web sites on eco-labelling program and symbols (Table 3) [6].

The Eco-leaf program (type III eco-label) was started by the JEMAI. The first trial phase of this program was launched in May 1999, and the Eco-leaf was launched in 2002. So far, 26 different product categories and 83 product environmental declaration sheets have been published on the JEMAI Web site, which can be accessed by the public [13].

Table 3 Examples of type II eco-labels of Japanese companies

Hitachi, Ltd.		Fujitsu Corporation	
Toppan Printing Co., Ltd.		Seiko Instruments (Inc.)	
Okamura Corporation		Sharp (Inc.)	
NEC		Matsushita Electric Group	

3. Current Industrial Practices

3.1 Eco-materials

A recent study by Nguyen et al. reported a list of eco-materials based on the environmental reports or responsible care reports in 2002 of more than 40 Japanese companies in several industrial sectors including metals, cement, chemicals, and others [9]. Altogether 359 different eco-materials were identified and further investigated to determine their eco-material classification.

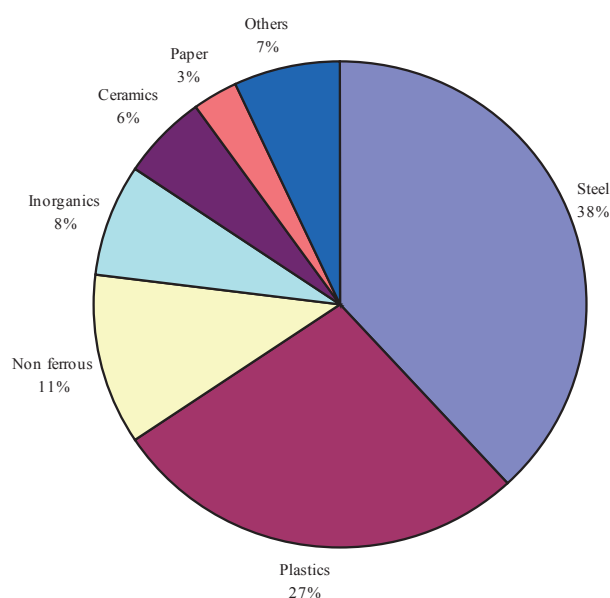


Figure 10 Eco-materials used in Japanese industries

Among industrial sectors, the steel industry (ferrous metal) was one of the leading industries in Japan in the field of eco-materials development. Figure 10 shows that this industry produced 38% of all eco-materials. The second leading industry was plastics and rubber, which accounted for 27%. Nonferrous and inorganic industries followed as the third and fourth (accounting for 11% and 8%, respectively).

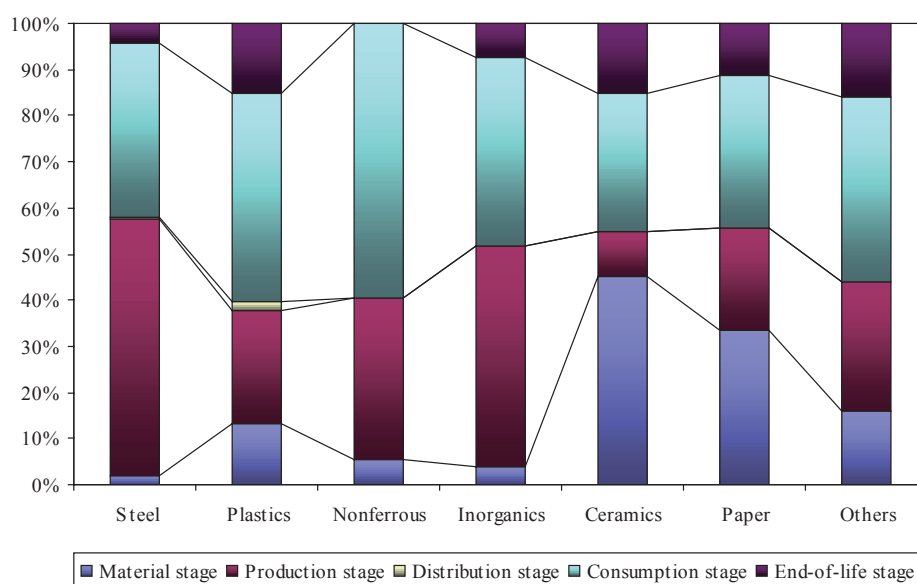


Figure 11 Eco-material development in different industries during five life cycle stages

These commercialized eco-materials were then qualitatively classified using the LCA concept with five stages of material, production, distribution, consumption, and end-of life. As illustrated in Figure 11, most eco-materials were developed with the consideration on the production and consumption stages, especially in iron and steel (55% and 38%, respectively), plastics (25% and 49%, respectively), nonferrous metals (35% and 60%, respectively), and inorganic chemical industries (48% and 41%, respectively). In contrast, ceramics and paper industries focused on the development of eco-materials in the material stage (45% and 33%, respectively) by using renewable or recycled materials.

In the iron and steel industry, there were three main focuses in eco-material development. First of all, hazardous substance-free steel such as lead-free and chromate-free steel during production received the greatest research and manufacturing attention. In addition to the hazardous substance-free issue, new advanced technologies in the steel-making process enabled easier production of steel by eliminating cleaning processes or allowing the use of easily formable steel processes. Thirdly, the iron and steel industry also focused on the consumption stage by producing high-efficiency steel such as high tensile-strength steel, weather-resistant steel, or higher energy-efficiency steel used in automobiles.

The second remarkable industry in the field of eco-material development was the plastics industry. Hazardous substance-free materials such as halogen-free flame-retardant or VOC-free plastics were the main eco-materials in the plastics industry. The industry also focused on the development of biomass and biodegradable plastics as eco-materials.

In general, the development of eco-materials in Japan has taken advantage of advanced and newly developed technologies. Ultra-light steel, formable steel, recyclable plastics (Toyota super olefin plastics), halogen-free flame-retardant polymers, and eco-cement are typical examples of eco-materials based on advanced technology.

Furthermore, the results of another study by Yamada et al. [12] suggested that the development of eco-materials in Japan was still in the early stage. R&D activities on eco-materials should be diversified and better balanced between all sustainable concerns. The introduction of eco-material guidelines is essential for this.

3.2 Eco-components

Another study on the current status of eco-components and eco-products in Japan was conducted during the development of this databook. More than 500 eco-components and eco-products were investigated to determine the current trends in development. This study covered more than 300 companies in Japan including electronics, construction, automobile, and machinery manufacturers. The distribution of eco-components and eco-products in different industrial sectors is shown in Figure 12. Electrical and electronic industries contributed the largest number of eco-components, or 33% of the total. Packaging components, automobile parts, and construction components were second (18%), third (16%), and fourth (15%), respectively. Machinery parts closely followed at fifth, with 13%.

In the electrical and electronics industries, hazardous substance-free components are one of the most crucial concerns as they are closely monitored by the authorities. This concern is related to the three life

cycle stages of manufacturing, product use, and end of life (Figure 13). These industries also have focused on global warming because energy consumption during the production and use of eco-components is closely related to their industries.

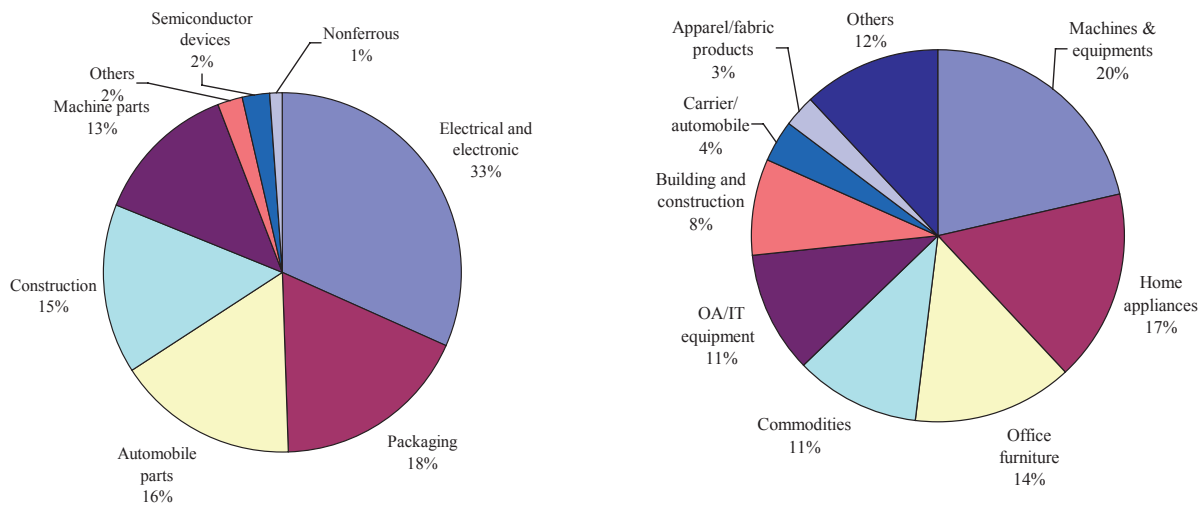


Figure 12 Eco-components and eco-products in different industrial sectors

Similarly, the automobile and machinery industries also conducted R&D on eco-components to reduce energy consumption during the product use phase. This will help reduce the impact of global warming.

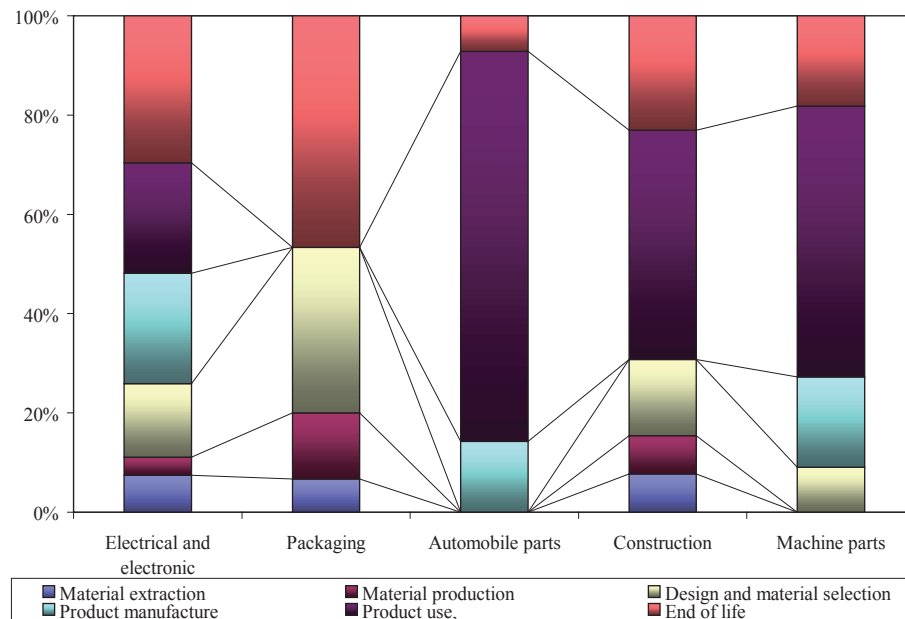


Figure 13 Distribution of eco-components in different industries during six life cycle stages

Unlike the electrical and electronics industries, the packaging industry has focused on resource conservation and recycling. This is due to the relatively short life of its products (a few months or years). As a result, most packaging materials and components were carefully developed with great attention to the material selection, design, and end-of-life stages (Figure 13).

3.3 Eco-products

Studies on the development of eco-products in Japan have been scattered. With more than 500 eco-components and eco-products on the market, the authors tried determine the development status and

trends of eco-products in Japan while preparing this databook. As shown in Figure 12, the three leading sectors in the field of eco-product production were machinery, home appliances, and office furniture (20%, 17%, and 14%, respectively). Commodities/outdoor/house kits, and office and information technology (IT) equipment categories followed with 11%. Automobile and carrier industries contributed only 4% of the total number of eco-products. This is due to the scale and complexity of eco-products in each sector. Unlike commodities or outdoor goods, a car consists of hundreds or thousands of different components. The apparel and fabric industries surprisingly contributed only 3% of the total number of eco-products.

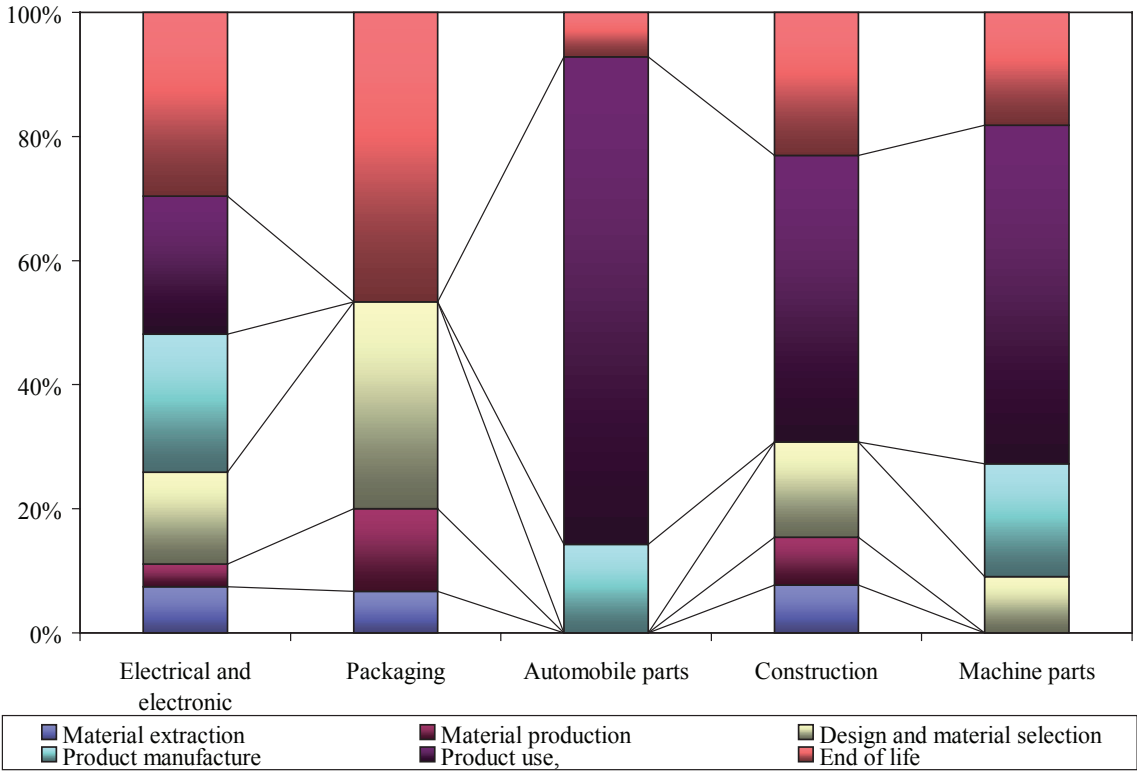


Figure 14 Distribution of eco-products in different industries during six life cycle stages

Eco-products were also classified into six life cycle stages to understand the concerns of Japanese industries. Figure 14 illustrates the distribution of eco-products in different life cycle stages in Japanese industries. As seen from the graph, the main concern of Japanese industries was the improvement of eco-products during the use phase. For example, the eco-products involved in the consumption phase in automobile and home electronic appliances accounted for 92.9% and 72.1%, respectively, of the total number of eco-products in those industries. In other industries such as machinery, commodities, IT equipment, and construction and civil engineering, the figures were about 50% or higher. End-of-life issues were another concern of Japanese industries, especially in the apparel and fabric sectors (accounting for 100%). Other sectors also paid attention to the environmental impacts of eco-products at the end-of-life stage.

The development and production of eco-materials, eco-components, and eco-products make a great contribution to companies' sales and revenues. Table 4 indicates the percentage share of eco-products in the total sales of selected electronics companies. According to the annual environmental reports of these companies, Canon has the highest eco-product sale contribution to its total sales in Japan (92.3%). Other electronics companies such as Fujitsu, Toshiba, and Matsushita Electric have their eco-product sales percentages of more than 50% of total sales. For Hitachi and NEC, the figures were less than 50%. These percentages, however, do not indicate which company is better than others in the field of eco-product development and production, since different companies have different evaluation criteria for eco-products. For instance, Canon has the highest sales value because its calculation method is based only on energy efficiency (ENERGY STAR®) criteria.

Table 4 Percentage of eco-product sales in total sales

Company	Year	Percentage
Canon	2002	92.3
Fujitsu	2002	66.0
Toshiba	2002	52.2
Matsushita Electric	2003	50.9
Hitachi	2003	46.0
NEC	2003	20.0

3.4 Eco-product exhibitions in Japan

In addition to the development of eco-design tools and approaches, annual eco-product exhibitions have been organized since 1999 to promote the eco-design movement in Japan. The objectives are to encourage the transition from mass production and consumption to eco-products and revolutionizing consumer awareness of the use of eco-products. A number of interested parties such as local governments, educational institutions, corporations, and NGOs have participated in the annual exhibitions. More than 300 companies and organizations participated each year (Figure 15).

In addition, individuals from government authorities to private citizens, from top management to shopfloor workers, from elementary schoolchildren to college students across the country gather to exhibit their activities and products, exchange knowledge, and establish networks in workshops on green purchasing, environmental business, and education.

Approximately 400 corporations and organizations participated in the Eco-products Exhibition 2003. They exhibited a wide range of products and services, from consumer goods to fuel-cell equipment to materials for industry. A record 114,060 visitors, including ordinary consumers, green purchasing buyers, top executives of leading environment-oriented companies, and young students joined in the three-day exhibition. Along with the exhibition, a survey on customer demand and attitude toward eco-products was conducted. At Eco-products 2002, the survey results showed that more than 65% of visitors would try to buy eco-products whenever they could. Among them, 6% stated that they would be willing to buy eco-products even at a higher price, while the remaining respondents preferred to buy them at the same price as conventional products [14].

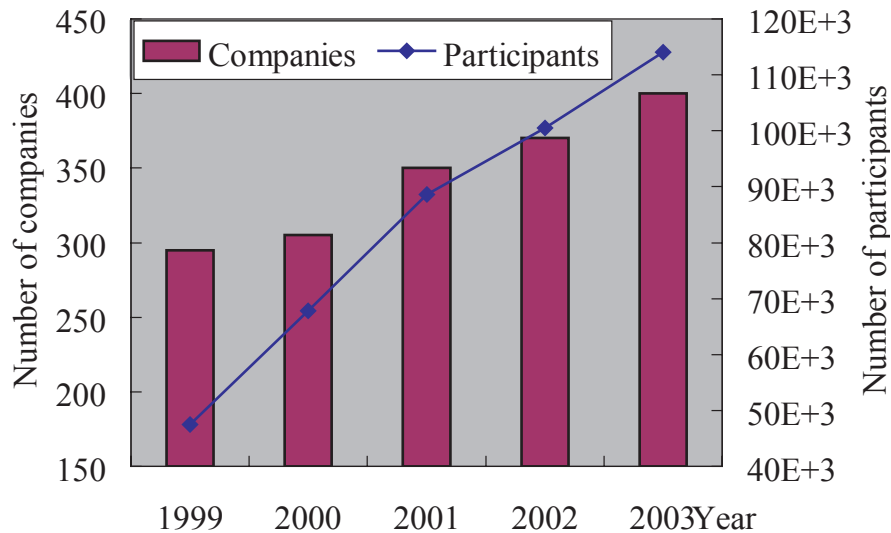


Figure 15 Number of participating companies and participants in eco-product exhibitions in Japan. Source: JEMAI

Authors

Hong Nguyen Xuan, Tomonori Honda, Ying Wang, and Ryoichi Yamamoto

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- [13] Japan Environmental Management Association for Industry. *Eco-leaf* .Accessed online at http://www.jemai.or.jp/english/ecoleaf_e/default.htm. November 2003. 22 July 2004.
- [14] Japan Environmental Management Association for Industry. *Eco-products*. Accessed online at <http://www.jemai.or.jp/>. 22 July 2004.

Related Organizations List

Ecomaterials Center, National Institute for Materials Science?(NIMS)

1-2-1 Sengen, Tsukuba, Ibaraki 305-0047, JAPAN

Tel: +81-29-859-2668 Fax: +81-29-859-2601

<http://www.nims.go.jp/emc/>

Ecomaterials Forum, The Society of Non-Traditional Technology (SNTT)

Toranomon Sakurada Dori Bldg. 1-2-10, Toranomon, Minato-ku, Tokyo 105-0001, JAPAN

Tel: +81-3-3503-4681 Fax: +81-3-3597-0535

<http://www.sntt.or.jp/>

Green Purchasing Network (GPN)

Cosmos Aoyama B2F, 5-53-67, Jingumae, Shibuya-ku, Tokyo 150-0001, JAPAN

Tel: +81-3-3406-5155 Fax: +81-3-3406-5190

<http://www.gpn.jp/>

Research Center for Life Cycle Assessment,

National Institute of Advanced Industrial Science and Technology (AIST)

16-3 Onogawa, Tsukuba, Ibaraki 305-8569, JAPAN

Tel: +81-29-61-8105 Fax: +81-29-61-8195

<http://unit.aist.go.jp/lca-center/>

SPEED (Special Project on Eco Efficiency and Eco Design)

Fe-209, 4-6-1, Komaba, Meguro-ku, Tokyo 153-8505, JAPAN

Tel +81- 3-5452-6098 ex.57780 Fax +81- 3-5452-6305

E-mail: speed17@iis.u-tokyo.ac.jp

<http://www.iis.u-tokyo.ac.jp/shourei/rc2004/rc17/rc17.html>

Yamamoto Lab., Institute of Industrial Science, University of Tokyo

Fe-207, 4-6-1, Komaba, Meguro-ku, Tokyo 153-8505, JAPAN

Tel +81- 3-5452-6098 ex. 57781 Fax +81- 3-5452-6305

<http://www.iis.u-tokyo.ac.jp/english/index.html>

Yasui Lab., Institute of Industrial Science, University of Tokyo

Fe-204, 4-6-1, Komaba, Meguro-ku, Tokyo 153-8505, JAPAN

Tel: +81-3-5452-6098 ex.58001 Fax: +81-3-5452-6643

<http://www.iis.u-tokyo.ac.jp/english/index.html>

1 Eco-materials

- i Metals
- ii Polymers
- iii Natural Materials
- iv Foams
- v Ceramics and Glass
- vi Composites
- vii Others



Eco-materials No.0001

Metals

Electric Contact

Relay Electric Contact Material: Cadmium-free

Mitsubishi Materials C.M.I. Corporation

46-1 Senpuku, Susono-city, Shizuoka, 410-1116 JAPAN

Tel; 055-992-6111 Fax; 055-992-6137

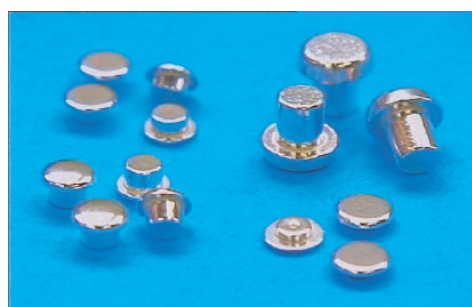
E-mail;

URL;

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- C3. Design and Material Selection

Contact material 'F Series', Ag cadmium-free materials, offers anti-welding and anti-wearing capabilities for DC/AC relays, switching devices and other applications. Traditionally, materials containing cadmium were widely used, but thanks to added components and metallography, this product provides much more durable and reliable contact materials. Currently, the F-series is being well received in the car-mounted relay and consumer switching device markets.



Products/Model :

F-800,F-830,F-300,F-200Series

Eco-materials No.0002

Metals

Lead-free Cutting Steel

Lead-free cutting steel: Eco-friendly, designed for automobile parts

AICHI STEEL CORPORATION

1, Wanowari, Arao-machi, Tokai-shi, Aichi-Pref, 476-8666 Japan

Tel; 052-603-9245 Fax; 052-603-1862

E-mail; nagatah@he.aichi-steel.co.jp

URL; <http://www.aichi-steel.co.jp>

Category:

- A3. Hazardous Substance
- B5. Energy Saving
- C3. Design and Material Selection

It is pointed out that lead could harmfully affect the environment. The use of lead is restricted due to the recent need for protection of global environment. Aichi Steel developed lead-free cutting steel (Ecocut-Steel) that has machinability equivalent to that of lead cutting steel.



Products/Model :

crankshaft made of Ecocut-Steel

Eco-materials No.0003

Metals

Non-lead free-cutting steel

Non-lead free-cutting-steel for car / motorcycle crankshafts etc

Sumitomo Metal Industries, Ltd.

1-8-11 Harumi chuo-ku, Tokyo, 104-6111 Japan

Tel; 03-4416-6111 Fax; 03-4416-6793

E-mail; chikyu-kan@sumitomometals.co.jp

URL; <http://www.sumitomometals.co.jp>

Category:

- A3. Hazardous Substance
- A4. Waste
- B1. Recyclability
- B3. Resource Saving
- C6. End-of-Life

Free-cutting steel containing lead was developed for use in crankshafts and other strong components of cars and motorcycles. However, environmental considerations have led to the need for free-cutting steel that does not contain lead. Sumitomo Metals and Sumitomo Metals (Kokura) Co., Ltd. have therefore developed a technology to control the shape of sulfides and can now offer a range of non-lead free-cutting steel products.



Products/Model :
Sumi Green S, T, X

Eco-materials No.0004

Metals

Automobile

Lead-free steel sheet for car fuel tank

Nippon Steel Corporation

2-6-3 Otemachi Chiyodaku Tokyo 100-8071 Japan

Tel; 03-3275-5144 Fax; 03-3275-5979

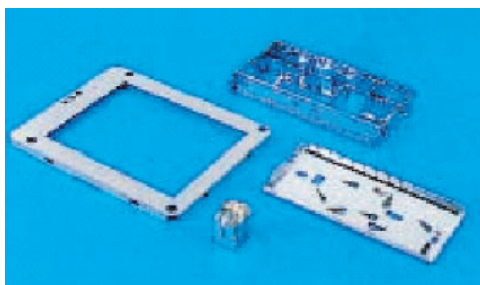
E-mail; kankyo@hq.nsc.co.jp

URL; <http://www0.nsc.co.jp/kankyou/index.html>

Category:

- A3. Hazardous Substance
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

Conventionally, lead-coated steel sheets have been used for car fuel tanks. Nippon Steel is now supplying a newly developed lead-free aluminum or tin-zinc coated steel sheet (Eco-Coat T) and hot-dip zinc-nickel coated steel sheet (Silver Zinc-NT). This eliminates the problem of lead in shredder dust, generated when cars are scrapped.



Eco-materials No.0005

Metals

Steel sheet

Lead-free steel sheet for fuel tank

JFE Holdings, Inc.

1-2, Marunouchi, 1-chome, Chiyoda-ku, Tokyo 100-0005, Japan

Tel; 03-3217-3912 Fax; 03-3214-9650

E-mail;

URL; <http://www.jfe-holdings.co.jp/environment/2003.html>

Category:

- A3. Hazardous Substance
- A4. Waste
- B1. Recyclability
- C4. Product Manufacture
- C6. End-of-Life

It is lead-free zinc base-coated steel sheet, which replace the conventional lead / tin coated steel sheet used for the fuel tank of car so as to reduce the usage of lead. It is characterized in unique organic coating for inside / outside surface. It excels in press formability, weldability, corrosion resistance, gasoline deterioration resistance.



Example of application
to a fuel tank

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0006

Metals

Plated sheet steel

“Alster,” aluminum plated sheet steel for fuel tank

Nisshin Steel Co., Ltd.

Shinkokusaibuilding 3-4-1, Marunouchi, Chiyoda-ku, Tokyo 100-8366, Japan

Tel; 03-3216-5511 Fax; 03-3214-1895

E-mail;

URL; <http://www.nisshin-steel.co.jp/>

Category:

- A3. Hazardous Substance
- B1. Recyclability

As aluminum plated sheet steel contains no lead, environment burden material, with high corrosion resistance against gasoline. It contributes to prevention of environmental pollution, without the mixture of lead into the shredder dust on car dismantlement, providing improvement of recyclability. (Up to now, “lead / tin plated sheet steel” has been used for the fuel tank.)



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0007

Metals

Refrigerators, Washing Machines, Audio Products

Steel sheet coated with chromate-free film for home electrical appliances

Nippon Steel Corporation

2-6-3 Otemachi Chiyodaku Tokyo 100-8071 Japan

Tel; 03-3275-5144 Fax; 03-3275-5979

E-mail; kankyo@hq.nsc.co.jp

URL; <http://www0.nsc.co.jp/kankyou/index.html>

Category:

- A3. Hazardous Substance
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

Conventionally, galvanized steel sheets are used in the manufacture of home electrical appliances such as refrigerators, washing machines, and air conditioners to prevent rust. However, the sheets are coated with a film containing trace amounts of chromic acid to prevent the zinc from being oxidized. Nippon Steel developed an eco-friendly resin coating, free of chromic acid, that protects the surface zinc against oxidation.



Eco-materials No.0008

Metals

Weather resistant steel

Weather resistant steel

JFE Holdings, Inc.

1-2, Marunouchi, 1-chome, Chiyoda-ku, Tokyo 100-0005, Japan

Tel; 03-3217-3912 Fax; 03-3214-9650

E-mail;

URL; <http://www.jfe-holdings.co.jp/environment/2003.html>

Category:

- A3. Hazardous Substance
- B2. Longevity
- B3. Resource Saving
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair

Weather resistant steel, which "controls rust by rust" is used for a wide range of field like construction or civil engineering, centering on bridges. It protects steel structures from rust, materializing longevity of 50-100 years without coating. The function is exerted through formation of hard rust with strong protection property on sheet surface. The protective rust has the same structure as iron ore, the raw material of iron and steel. We have developed a new weather-resistant chrome-free steel material proper for seashore zone.



Oku-Aso Bridge constructed by using weathering steel

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0009

Metals

Surface treated steel plate

"JFE Eco Frontier series", chromate-free coated steel sheet

JFE Steel Corporation

2-3, Uchisaiwai-cho 2-chome, Chiyoda-ku, Tokyo 100-0011 Japan

Tel; 03-3597-3734 Fax; 03-3597-3035

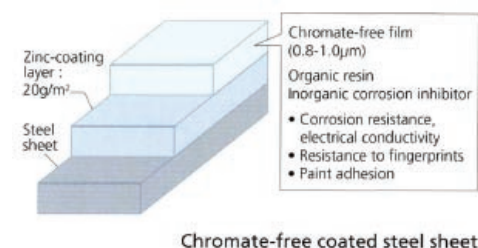
E-mail;

URL; <http://www.jfe-steel.co.jp>

Category:

- A3. Hazardous Substance
- B2. Longevity
- B6. Environmental Purification
- C3. Design and Material Selection

In the EU countries and China, it is imposed to replace chromium(VI), lead, mercury and cadmium to their substitutes by June, 2006. JFE Steel has newly developed electro-galvanized steel sheet which does not contain chromium(VI) and chromate. The steel sheet is excellent in corrosion resistance, electric conductivity, fingerprint -proof, adhesion of coating material, lubricities, etc. The steel sheet is therefore widely adopted in the areas of interior panels of home electronic appliance and vending machine, interior goods of OA equipment and copying machine, and chassis of TV, VTR, Audio, etc.



Products/Model :

JFE Eco Frontier series

Eco-materials No.0010

Metals

Chromium-free coated steel sheet

Chromium-free coated-steel-sheet for automobile / appliances with rust-resistance / design / finger-print-resistance / others

Sumitomo Metal Industries, Ltd.

1-8-11 Harumi chuo-ku, Tokyo, 104-6111 Japan

Tel; 03-4416-6111 Fax; 03-4416-6793

E-mail; chikyu-kan@sumitomometals.co.jp

URL; <http://www.sumitomometals.co.jp>

Category:

- A3. Hazardous Substance
- A4. Waste
- B1. Recyclability
- B6. Environmental Purification
- C6. End-of-Life

The development of chromium-free treatment on various coated steel sheet becomes essential in recent years in order to comply with regulations for toxic substances. We have developed all kinds of chromium-free treatment on coated steel sheet.



Products/Model :

Tough-zinc Hyper NEO Sumi-zinc NEO coat T1 etc.

Eco-materials No.0011

Metals

Surface treated steel plate

Steel plate for electronic devices without chromium (VI), SILVERTOP ECO

Toyo Kohan Company, Limited

2-12, Yonbancho, Chiyoda-ku, Tokyo 102-8447 Japan

Tel; 03-5211-6211 Fax; 03-5211-0181

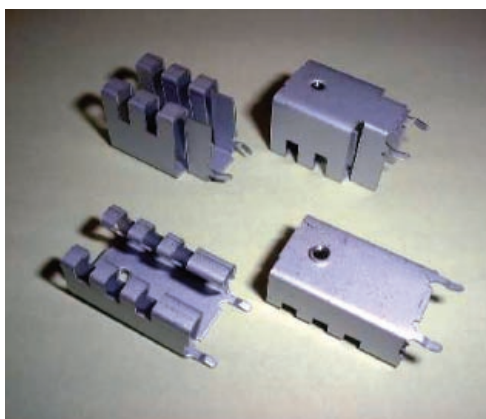
E-mail;

URL; <http://www.toyokohan.co.jp/>

Category:

- A3. Hazardous Substance
- A4. Waste
- B6. Environmental Purification
- C2. Material and Components Production
- C6. End-of-Life

The surface treated steel plate is post-processed with unique non-chromium chemical treatment on its surface following to composite electrical zinc plating. The plate has beautiful surface, outstandingly smooth and antifriction characteristics, and fits for lead-free soldering as other similar products do. In addition, there is no environmental contamination caused by chromium (VI) when the product is disposed.



Products/Model :
Silvertop Eco

Eco-materials No.0012

Metals

Laminated steel plate

Environment-friendly laminated steel plate without vinyl chloride, FINETOP

Toyo Kohan Company, Limited

2-12, Yonbancho, Chiyoda-ku, Tokyo 102-8447 Japan

Tel; 03-5211-6211 Fax; 03-5211-0181

E-mail;

URL; <http://www.toyokohan.co.jp/>

Category:

- A3. Hazardous Substance
- A4. Waste
- B6. Environmental Purification
- C2. Material and Components Production
- C6. End-of-Life

The product is steel plate laminated with special polyester resin onto galvanized plate, which is used for household electric appliances, and steel plates for internal building materials. The product replaces conventional vinyl chloride steel plates, and produces no toxic gasses when burned by a fire or other accidents.



Products/Model :
FINETOP

Eco-materials No.0013

Metals

Residential buildings

Eco-friendly construction method using thin-sheet steel for extra durability

Nippon Steel Corporation

2-6-3 Otemachi Chiyodaku Tokyo 100-8071 Japan

Tel; 03-3275-5144 Fax; 03-3275-5979

E-mail; kankyo@hq.nsc.co.jp

URL; <http://www0.nsc.co.jp/kankyoku/index.html>

Category:

- A1. Global Warming
- A4. Waste
- B2. Longevity
- B3. Resource Saving
- B5. Energy Saving

Nippon Steel Corporation developed a new construction method called "Nittetsu super frame" using thin-sheet steel for low-rise residential buildings. Offering extra durability, it involves the use of galvanized thin-sheet steel for the frame of wooden buildings constructed using the two-by-four system. The method involves adiabatic construction which involves packing the outside walls of the building with heat insulator. This provides more efficient heating and air-conditioning and saves energy. In addition, the use of recyclable steel products helps to conserve forest resources.



Eco-materials No.0014

Metals

High-tensile steel-plate with superior fatigue-resistance

High-Tensile Steel Plate for shipbuilding with fatigue-resistant properties

Sumitomo Metal Industries, Ltd.

1-8-11 Harumi chuo-ku, Tokyo, 104-6111 Japan

Tel; 03-4416-6111 Fax; 03-4416-6793

E-mail; chikyu-kan@sumitomometals.co.jp

URL; <http://www.sumitomometals.co.jp>

Category:

- A5. Resource Consumption
- B2. Longevity
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair

High-tensile steel plate (FCA steel plate) with superior fatigue-resistant properties developed by Sumitomo Metals has been selected as the material for the bottom floor-plate of the 35,000 m3 LPG carrier in construction. FCA steel is the first material in the world to improve the fatigue-resistant properties of hull steel plate. It is a ground-breaking development in the materials field, and the use of FCA steel brings dramatic safety and reliability improvements to ship hulls.



Products/Model :

Fatigue Crack Arrest Steel Plate

Eco-materials No.0015

Metals

Stainless steel

Stainless steel with high corrosion resistance

Nisshin Steel Co., Ltd.

Shinkokusaibuilding 3-4-1, Marunouchi, Chiyoda-ku, Tokyo 100-8366, Japan

Tel; 03-3216-5511 Fax; 03-3214-1895

E-mail;

URL; <http://www.nisshin-steel.co.jp/>

Category:

- A1. Global Warming
- B2. Longevity
- B4. Higher Quality
- C2. Material and Components Production
- C5. Product Use, Maintenance and Repair

It is a stainless steel with high corrosion resistance capable of application to the purposes of roofs and exterior of seashore environment. The product in question is a stainless steel capable of retaining a good appearance with the condition close to maintenance-free without a surface treatment. Moreover it has a smaller coefficient of thermal expansion than that of the existing stainless steel, making it possible to lengthen such as roof, contributing to reduction in the construction cost as well.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0016

Metals

Plated sheet steel

“ZAM,” hot-dipped sheet steel with high corrosion resistance

Nisshin Steel Co., Ltd.

Shinkokusaibuilding 3-4-1, Marunouchi, Chiyoda-ku, Tokyo 100-8366, Japan

Tel; 03-3216-5511 Fax; 03-3214-1895

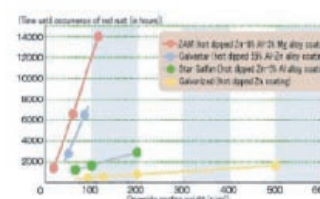
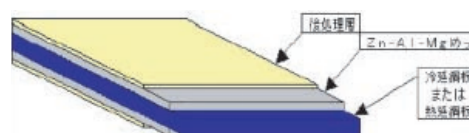
E-mail;

URL; <http://www.nisshin-steel.co.jp/>

Category:

- A1. Global Warming
- B2. Longevity
- C2. Material and Components Production

It is a Zn-Al-Mg system hot-dipped sheet steel with high corrosion resistance (Zn-6%Al-3%Mg). The corrosion resistance of the flat section is 10-20 times and 5-8 times as high as that of the conventional Zn system one and Zn-5%Al system one, respectively. At the same time, the corrosion resistance of cut end surface is higher than the conventional plated sheet steel. It contributes to the environment protection thanks to its services of reduction of waste / resource-saving / enrgy-saving due to the longevity provided by high corrosion resistance or the plating process-saving, which is supposed to succeed to the fabrication.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0017

Metals

Steel sheet

Electrical steel sheet (Silicon steel sheet)

JFE Holdings, Inc.

1-2, Marunouchi, 1-chome, Chiyoda-ku, Tokyo 100-0005, Japan

Tel; 03-3217-3912 Fax; 03-3214-9650

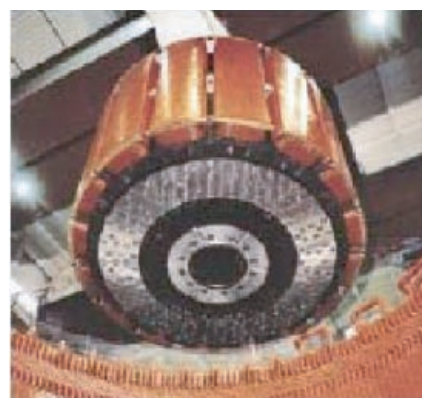
E-mail;

URL; <http://www.jfe-holdings.co.jp/environment/2003.html>

Category:

- A1. Global Warming
- B2. Longevity
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This sheet is a oriented electrical steel sheet having the world's highest magnetic flux density. Reduction of energy, noise, and size in electrical transformer can be realized by using this sheet. This sheet has been widely used for large-size transformer for power station, transformers for high-speed train, and other applications.



Example of applications of electrical steel sheet (large power generator)

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0018

Metals

High-efficiency electric steel sheet

High-efficiency electric-steel-sheet for appliances/vehicles achieving high-magnetic-flux-density / low-iron-loss

Sumitomo Metal Industries, Ltd.

1-8-11 Harumi chuo-ku, Tokyo, 104-6111 Japan

Tel; 03-4416-6111 Fax; 03-4416-6793

E-mail; chikyu-kan@sumitomometals.co.jp

URL; <http://www.sumitomometals.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

In order to improve energy efficiency of motors, Sumitomo Metals has developed non-oriented electric steel sheet with good machinability and high-efficiency. This steel has been applied to compressor motors in air conditioners. We are now strongly proposing to automotive companies to adopt our 27SX series of electric steel sheet for high-efficiency motors that delivers both high permeability and low iron loss in high frequency application. This adoption will result in improvement in automotive fuel economy and compliance with exhaust regulations.



Products/Model :
T27X series

Eco-materials No.0019

Metals

High-heat-emission steel sheet

High-heat-emission-steel-sheet for household appliances / OA products

Sumitomo Metal Industries, Ltd.

1-8-11 Harumi chuo-ku, Tokyo, 104-6111 Japan

Tel; 03-4416-6111 Fax; 03-4416-6793

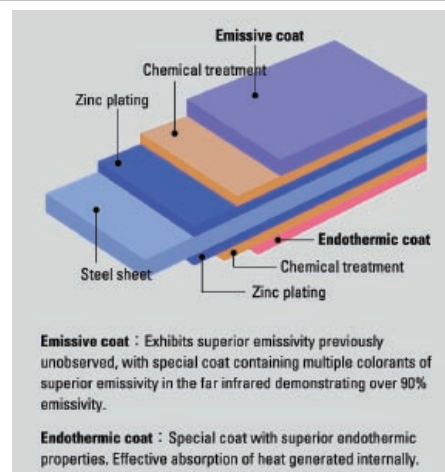
E-mail; chikyu-kan@sumitomometals.co.jp

URL; <http://www.sumitomometals.co.jp>

Category:

- A5. Resource Consumption
- B2. Longevity
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair

Sumitomo Metals started to work on high-emission steel sheet well in advance of other steelmakers. For ten years we have been supplying Sumitomo high-emission pre-painted steel sheet for the cover of stabilizers in fluorescent lamps to cope with their high heat emission. Sumitomo high-emission pre-painted steel sheet involved the application of special paint to cold-rolled steel sheet or galvanized steel sheet and its emissivity is 94%. It can also hold a temperature rise in the simulated cabinet to less than 60°C while regular zinc coated steel increases to 73°C in the same cabinet.



Products/Model :

Sumitomo High Coat (High-heat-emission-type)

Eco-materials No.0020

Metals

High-temperature, high-strength boiler steel tube

Stainless steel boiler tube high-efficiency in powerhouse of power generation in powerhouse

Sumitomo Metal Industries, Ltd.

1-8-11 Harumi Chuo-ku, Tokyo, 104-6111 Japan

Tel; 03-4416-6111 Fax; 03-4416-6793



E-mail; chikyu-kan@sumitomometals.co.jp

URL; <http://www.sumitomometals.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

In the view point of improvement of the global environment, high temperature and high pressure power generation boilers (Ultra Super Critical boilers) have been developed in the world to increase the heat efficiency of boilers and reduce CO₂ emission. High strength and high corrosion resistant steel tubes and pipe are required for these USC (Ultra Super critical) boilers. SUPER304H, the authentic stainless steel tube with high-temperature strength for power generation boilers developed by Sumitomo Metals, has superior steam oxidation resistance and twice the strength of conventional materials at high temperatures. Type 347H stainless steel, due to the optimum addition of copper, niobium, nitrogen and other alloying elements and the developed thermo-mechanical tube production method.

Advantage of SUPER304H Steel Tube		
Condition : 24.1MPa, 650deg.C and 50.8mm in outside diameter		
Steel	SUPER304H	Type347H tube
Allowable tensile stress (650 deg.C, Mpa)	80	41
Tube dimensions	φ50.8×t6.6	φ50.8×t10.8
		
Weight	68	100

Products/Model :

Super304H

Eco-materials No.0021

Metals

Three-layer clad steel sheet

Three-layer-clad steel sheet for IH cooking-heater offering heat efficiency / weight-saving

Sumitomo Metal Industries, Ltd.

1-8-11 Harumi Chuo-ku, Tokyo, 104-6111 Japan

Tel; 03-4416-6111 Fax; 03-4416-6793

E-mail; chikyu-kan@sumitomometals.co.jp

URL; <http://www.sumitomometals.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair

Sumitomo Metals (Naoetsu) Ltd. has succeeded in developing a production process for thermo-sensitive clad steel using an alloy where temperature does not rise above a given level in electromagnetic induction heating. It has started to supply it as a dedicated base material for thermo-sensitive frying pans and deep fryers. The company has also developed a three-layer clad steel of copper, stainless steel and aluminum for induction heating thermoses and brought it to mass production. Not only is this steel superior to two-layer clad steel in terms of induction heating efficiency and heat transfer properties, but it is also more lightweight.



Products/Model :

Copper/Stainless/Aluminum Clad Sheet

Eco-materials No.0022

Metals

High-performance neodymium system sintered magnet

“HILOPTM,” high-performance neodymium system sintered magnet

Hitachi Metals, Ltd.

Shinjyuku park tower 3-7-1, Nishishinjyuku, Shinjyuku-ku, Tokyo 163-1015, Japan

Tel; 03-5381-6955-6958 Fax; 03-5381-6959

E-mail;

URL; <http://www.hitachi-metals.co.jp/>

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

In late years, the energy-saving and high efficiency gain recognition from the viewpoint of global environmental problems, the move to shift the wire wound motor to the motor with permanent magnet is under way. In particular, with reference to the home electric appliances, the electric automobile, the hybrid vehicle and so on, the magnetic motor attracts people's attention, with energy-saving and high efficiency expected. This magnet enables efficiency and downsizing of each motor, contributing to energy-saving.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0023

Metals

Steel materials

High-strength steels for automotive transmissions and machines

DAIDO STEEL CO., LTD.

6-35, 1-Chome, Konan, Minato-ku, Tokyo 108-8478 Japan

Tel; 03-5439-1273 Fax; 03-5439-6740

E-mail; t-kimura@ac.daido.co.jp

URL; <http://www.daido.co.jp>

Category:

- A1. Global Warming
- B2. Longevity
- B4. Higher Quality
- C2. Material and Components Production
- C5. Product Use, Maintenance and Repair

Applying high-strength steel for driveline gears achieves lighter weight and long life. In addition the vehicle body weight can be reduced, which improves mileage and life of gears.



Products/Model :
DSG Steel.

Eco-materials No.0024

Metals

Die iron and steel materials

Cold die materials with high-machinability and high-performance

DAIDO STEEL CO., LTD.

6-35, 1-Chome, Konan, Minato-ku, Tokyo 108-8478 Japan

Tel; 03-5439-1273 Fax; 03-5439-6740

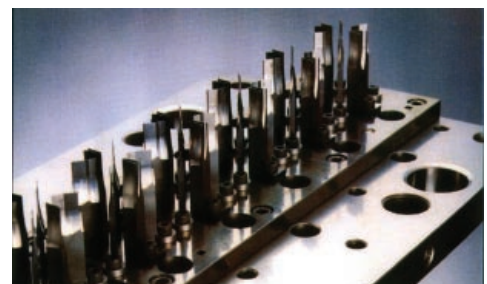
E-mail; t-kimura@ac.daido.co.jp

URL; <http://www.daido.co.jp>

Category:

- A5. Resource Consumption
- B2. Longevity
- B4. Higher Quality
- C4. Product Manufacture
- C5. Product Use, Maintenance and Repair

This cold die steel overcomes the lack of hardness and low hardness in high temperature tempering, which were disadvantages in existing cold die steel. The best steel 62-63HRC, which has double-hardness or more, is produced by optimized alloy design with high temperature tempering. As a result, this steel is extremely high resistance to early crack, abrasion, and crack/distortion trouble during cutting wire.



Products/Model :
DC53

Eco-materials No.0025

Metals

Rooftop Greening Pallet

Easy to handle pallets for rooftop greening

Nippon Steel Corporation

2-6-3 Otemachi Chiyodaku Tokyo 100-8071 Japan

Tel; 03-3275-5144 Fax; 03-3275-5979

E-mail; kankyo@hq.nsc.co.jp

URL; <http://www0.nsc.co.jp/kankyoku/index.html>

Category:

- A4. Waste
- A5. Resource Consumption
- B5. Energy Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

Unlike conventional rooftop greening methods in which earth is spread on the roof surface, this pallet method uses pre-planted greening pallets linked with joints. The pallets themselves are made of recyclable polypropylene and although they are lightweight, they are designed to be wind-proof. Limited maintenance is required and they provide a good heat-insulating effect in summer and heat-retention effect in winter. In addition to energy savings, they help to alleviate heat island phenomenon.



Eco-materials No.0026

Metals

Rare earth magnet

Energy saving conscious rare earth magnet designed for various motors

Shin-Etsu Chemical Co., Ltd.

6-1, Ohtemachi 2-chome, Chiyoda-ku, Tokyo, 100-0004 Japan

Tel; 03-3246-5091 Fax; 03-3246-5096

E-mail; sec-pr@shinetsu.jp

URL; <http://www.shinetsu.co.jp>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving

The rare earth magnet with world-highest magnetic properties is effective in realizing small-packaging and energy-saving of various devices including electronic components. This product is typically applied to hard disc drives of computers, various motors for factory and office equipment, while it is recently used for air compressors of air-conditioners and automobiles. Especially, the motors applied to air compressors are highly evaluated as new-type energy-saving motors, making a considerable contribution to global warming protection through energy saving and low emission of carbon dioxide.



Products/Model :

Rare earth magnet

Eco-materials No.0027

Metals

Antibacterial plating

Metal product with antibacterial function

KOBE STEEL, LTD.

1-5-5, Takatsukadai Nishi-ku, Kobe, Hyogo 651-2271 Japan

Tel; 078-992-5582 Fax; 078-992-5585

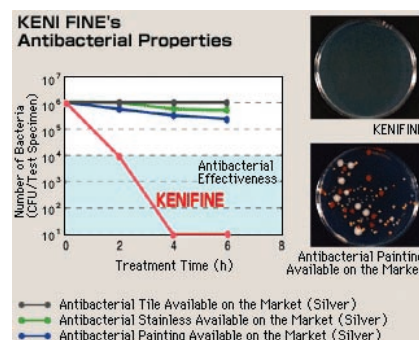
E-mail; www-admin@kobelco.co.jp

URL; <http://www.kobelco.co.jp>

Category:

- A3. Hazardous Substance
- B6. Environmental Purification
- C3. Design and Material Selection

We have developed our own antibacterial plating technology, which can be applied to various metal products such as stainless steel, aluminum, and copper alloy, as well as to some resin products. The plating not only shows high antibacterial effect under actual environments, but also retains mold/alga-proof functions. These characteristics last for a long period of time, and safety of the product has been also verified.



Eco-materials No.0028

Metals

High-tensile strength-steel sheet for automobile

Steel sheets useful for the body weight reduction of automobile

JFE Steel Corporation

2-3, Uchisaiwai-cho 2-chome, Chiyoda-ku, Tokyo 100-0011 Japan

Tel; 03-3597-3734 Fax; 03-3597-3035

E-mail;

URL; <http://www.jfe-steel.co.jp>

Category:

- A1. Global Warming
- B3. Resource Saving
- B5. Energy Saving
- C3. Design and Material Selection

High tensile strength steel makes the thickness of the plate thinner, because it is strong. As the steel plate for the automobile, it ensures the safety of the car body, and contributes to the prevention of the global warming through the improvement in the fuel consumption by the lightening of the car body. In order to receive using the high tensile strength steel plate, JFE Steel Co. assorted various materials for all grades which is excellent in stamping performance, weldability, fatigue characteristics and adhesion of the plating.



Eco-materials No.0029

Metals

High-strength steel sheet

High-strength, dent resistant steel sheet for automotive exposed panel

Sumitomo Metal Industries, Ltd.

1-8-11 Harumi chuo-ku, Tokyo, 104-6111 Japan

Tel; 03-4416-6111 Fax; 03-4416-6793

E-mail; chikyu-kan@sumitomometals.co.jp

URL; <http://www.sumitomometals.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

In 1979 Sumitomo Metals developed the world's first bake-hardenable high-strength steel sheet for automotive application. Bake-hardenable steel sheet harden through paint-baking process at 180C, exhibits excellent dent-resistance and is applied to automotive panel, door and hood. We have continued to develop various high-strength steel sheet, and are contributing to reduce vehicle weight by developing Sumi-dent Super with larger bake-hardenability and Ultra High-strength Steel Sheet.



Products/Model :
Sumi-dent Super

Eco-materials No.0030

Metals

Washing Machines, Refrigerators, and Air-conditioners

Pre-coated steel sheet which allows manufacturers to eliminate the painting process

Nippon Steel Corporation

2-6-3 Otemachi Chiyodaku Tokyo 100-8071 Japan

Tel; 03-3275-5144 Fax; 03-3275-5979

E-mail; kankyo@hq.nsc.co.jp

URL; <http://www0.nsc.co.jp/kankyou/index.html>

Category:

- A3. Hazardous Substance
- A5. Resource Consumption
- B3. Resource Saving
- B6. Environmental Purification
- C4. Product Manufacture

Nippon Steel's prepainted steel sheet (trademarked as Viewcoat) is used in washing machines, refrigerators and outdoor air conditioner units. Customers can specify their chosen color and this eliminates the painting process following fabrication and assembly. Pre-painted on a dedicated painting line, Viewcoat excels in paint film quality, minimizes paint loss and greatly reduces environmental impact.



Eco-materials No.0031

Metals

Iron powder

"KIP21SX", sinter-hardning type alloy steel powder

JFE Steel Corporation

2-3, Uchisaiwai-cho 2-chome, Chiyoda-ku, Tokyo 100-0011 Japan

Tel; 03-3597-3734 Fax; 03-3597-3035

E-mail;

URL; <http://www.jfe-steel.co.jp>

Category:

- A1. Global Warming
- B5. Energy Saving
- C4. Product Manufacture

For the conventional sintered materials, carburization heat treatment after sintering is usually conducted to improve its strength, and the material after sintering is reheated to about 900°C. The environment loading (fossil-fuel consumption, CO₂ discharge, etc) owing to this process is being estimated at about 20% of the whole manufacturing process of powder metal parts. "KIP21SX" powder developed by JFE Steel Co. can omit the heat treatment. Only by cooling at the speed of 30-40°C/min, the performance equal to that of the conventional material is obtained. Hence, it becomes possible that the environmental loading on the high-strength powder-metal parts manufacturing is reduced.



Products/Model :
KIP 21SX

Eco-materials No.0032

Metals

Tailored blanking

Resource-saving blanking technology for automobiles through assorted steel-sheet welding

Sumitomo Metal Industries, Ltd.

1-8-11 Harumi chuo-ku, Tokyo, 104-6111 Japan

Tel; 03-4416-6111 Fax; 03-4416-6793

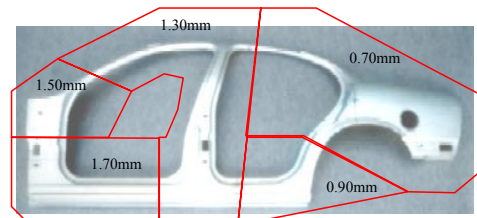
E-mail; chikyu-kan@sumitomometals.co.jp

URL; <http://www.sumitomometals.co.jp>

Category:

- A1. Global Warming
- B3. Resource Saving
- B5. Energy Saving
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

Tailored welding blanking technology is used to join together pieces of steel sheet like a patchwork. They are then press-formed and applied to the car body. Conventionally, the thickness of stamped parts was the same throughout the whole panel, but this meant that in some places it was thicker than necessary. However, this technology allows the thickness of the pieces to differ and so reduces the weight of the car. Sumitomo Metals is implementing a new tailored welding blanking technology that allows welding along curves and diagonals in addition to perpendiculars, expanding the range of its applications.



Products/Model :
Tailored Blank

Eco-materials No.0033

Metals

Stainless steel

“U coat,” protective-film-less stainless steel sheet

Nisshin Steel Co., Ltd.

Shinkokusaibuilding 3-4-1, Marunouchi, Chiyoda-ku, Tokyo 100-8366, Japan

Tel; 03-3216-5511 Fax; 03-3214-1895

E-mail;

URL; <http://www.nisshin-steel.co.jp/>

Category:

- C2. Material and Components Production
- C6. End-of-Life

It is a stainless steel sheet with special clear resin coat on the surface. Generally speaking, the metal roof is supposed to be coated with a protective film to prevent from scratches on molding, performed roll forming, with the film exfoliated after the construction. This product materialized the protective-film-less, eliminating the need for exfoliation (process saving), resulting in film incineration unnecessary and hence contributing to environment protection.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0034

Metals

Stainless steel

“NSS431DP-2,” heat-treatment omitted high-strength stainless steel

Nisshin Steel Co., Ltd.

Shinkokusaibuilding 3-4-1, Marunouchi, Chiyoda-ku, Tokyo 100-8366, Japan

Tel; 03-3216-5511 Fax; 03-3214-1895

E-mail;

URL; <http://www.nisshin-steel.co.jp/>

Category:

- B5. Energy Saving
- C2. Material and Components Production

It is a high-strength stainless steel for vehicles with the machine part, the complex constitution of ferrite and martensite. This product contributes to energy saving without the need for the heat treatment by users, with workability and high intensity owing to the diploid structure of hard martensite and soft ferrite.



Example of deep-drawn NSS304ES

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0035

Metals

Super HIBASE

Super HIBASE

Hitachi Metals, Ltd.

Shinjyuku park tower 3-7-1, Nishishinjyuku, Shinjyuku-ku, Tokyo 163-1015, Japan

Tel; 03-5381-6955-6958 Fax; 03-5381-6959

E-mail;

URL; <http://www.hitachi-metals.co.jp/>

Category:

- A1. Global Warming
- B2. Longevity
- B4. Higher Quality
- B5. Energy Saving
- C2. Material and Components Production

From the viewpoint of earthquake resistance, important parts are the joints of foundation and column-beam connection part. Hitachi HIBASE method is a new joining method used for the column base of steel-frame building. Furthermore, it enjoys a lot of merits such as superb earthquake resistance, substantial curtailment of construction period, cost reduction and space saving.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0036

Metals

Steel materials for die

High-performance die materials for 40HRC pre-hardened type plastics

DAIDO STEEL CO., LTD.

6-35, 1-Chome, Konan, Minato-ku, Tokyo 108-8478 Japan

Tel; 03-5439-1273 Fax; 03-5439-6740

E-mail; t-kimura@ac.daido.co.jp

URL; <http://www.daido.co.jp>

Category:

- A5. Resource Consumption
- B2. Longevity
- B4. Higher Quality
- C4. Product Manufacture
- C5. Product Use, Maintenance and Repair

This steel material is well-tempered at the optimal condition of 40HRC, so the materials can be used for diesinking without heating process. Grinding after processing is relatively easy because the technique of age hardening and special melting is employed. Additionally, mirror surface finishing and chemical etching are available. This material is good for goods requiring mirror finished surface.



Products/Model :
NAK80

Eco-materials No.0037

Metals

Laminated steel plate

Environment-friendly laminated steel plate for metal containers, Hi-Pet

Toyo Kohan Company, Limited

2-12, Yonbancho, Chiyoda-ku, Tokyo 102-8447 Japan

Tel; 03-5211-6211 Fax; 03-5211-0181

E-mail;

URL; <http://www.toyokohan.co.jp/>

Category:

- A1. Global Warming
- A4. Waste
- B5. Energy Saving
- B6. Environmental Purification
- C4. Product Manufacture

The product is laminated steel plate with polyester resin after the steel surface is treated, which contributes to reducing environmental influence when metal cans are manufactured. More specifically, environmental influence on the atmosphere and waste water are reduced through elimination of painting and cleaning process, while no sludge is produced when metal cans are manufactured.



Products/Model :

Hi-Pet

Eco-materials No.0038

Metals

High Yield Ratio Resin Mold

High-yield ratio mold: Reducing material loss

Tokai Rika Co., Ltd.

3-260 Toyota, Oguchi-cho, Niwa-gun, Aichi, 480-0195 Japan

Tel; 0587-95-5211 Fax;

E-mail;

URL; <http://www.tokai-rika.co.jp/>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving
- C4. Product Manufacture

We developed a slimmer and shorter mold in order to improve the yield ratio of a spool runner occurring at resin molding. In addition, we reduced cooling time by using airflow for in-mold cooling. This reduced overall molding time, leading to a reduction of power consumption.



Products/Model :

The high yield ratio mold

Eco-materials No.0039

Metals

Aluminum Die-cast Cylinder

Eco-friendly, all aluminum Yamaha DiASil Cylinder: High functionality and low-cost

YAMAHA MOTOR CO., LTD.

Shingai, Iwata, Shizuoka 438-8501 Japan

Tel; 0538-32-1100 Fax; 0538-37-4258

E-mail;

URL; <http://www.yamaha-motor.co.jp/>

Category:

- A4. Waste
- B1. Recyclability
- B4. Higher Quality
- C2. Material and Components Production
- C6. End-of-Life

The new Yamaha "DiASil Cylinder" is made using a process that brings together an ideal combination of material, manufacturing technology and environmental friendliness. The manufacturing technology is the recently developed Yamaha CF Aluminum Die-cast Technology, which allows production of an all-aluminum die-cast cylinder. The material used is a 20% silicon content aluminum alloy.



铸铁ライナー使用

アルミシリンダー

DiASil シリンダー

Products/Model :
DiASil Cylinder

Eco-materials No.0040

Metals

Steel sheet

Stainless steel sheet and tube for automotive exhaust systems

JFE Holdings, Inc.

1-2, Marunouchi, 1-chome, Chiyoda-ku, Tokyo 100-0005, Japan

Tel; 03-3217-3912 Fax; 03-3214-9650

E-mail;

URL; <http://www.jfe-holdings.co.jp/environment/2003.html>

Category:

- A1. Global Warming
- A2. Air Pollution
- B5. Energy Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

Conventional exhaust manifold for automotive engines are made by casting. However, thanks to new hot rolling technology, a stainless steel having high formability for making light weight parts and excellent thermal resistance has been developed. We have been producing ultra-thin stainless foil (30 μ m x 1000 mm) for thin metal honeycomb that features high thermal and oxidation resistance though our unique high-purity refining and high-speed wide metal rolling technology.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0041

Metals

Aluminum Can

Aluminum material for can stock made from used beverage cans

The Furukawa Electric Co., Ltd.

6-1, Marunouchi 2-chome, Chiyoda-ku, Tokyo, 100-8322 Japan

Tel; Fax;

E-mail; r-d@ho.furukawa.co.jp

URL; <http://www.furukawa.co.jp>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C1. Material Extraction
- C6. End-of-Life

The use of can stock made from used beverage cans contributes to aluminum recycling.



Products/Model :

Recycled Aluminum Can Stock

Eco-materials No.0042

Metals

Resin coated aluminum sheet

Functional resin-coated aluminum-sheet, not requiring lubricants and cleansers on stamping

The Furukawa Electric Co., Ltd.

6-1, Marunouchi 2-chome, Chiyoda-ku, Tokyo, 100-8322 Japan

Tel; 03-5611-2466 Fax; 03-5611-2413

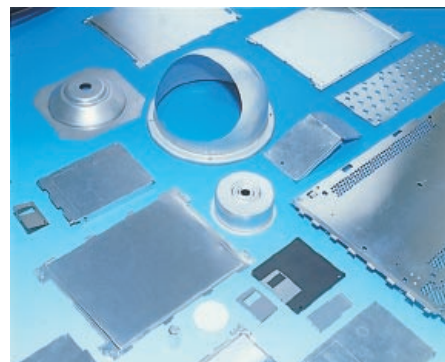
E-mail; t.ishii@unifus.co.jp

URL: <http://www.unifus.co.jp>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B4. Higher Quality
- B6. Environmental Purification
- C4. Product Manufacture

These functional resin coated aluminum sheets provide enhanced formability, corrosion resistance, scuff- and fingerprint-resistance, resistance to chemicals, electrical conductivity, ease of printing, and anti-bacterial and anti-mold properties. They are also self-lubricating, so that disposal of the lubricants and cleansers formerly used in the stamping process is eliminated.



Products/Model :

Functional resin-coated aluminum sheets
"FUSCOAT"

Eco-materials No.0043

Metals

Solder

Eco-friendly solder for general electrical components

Fujikura Ltd.

1-5-1 Kiba, Koto-ku, Tokyo, 135-8512 Japan

Tel; 03-5605-1272 Fax; 03-5606-1549

E-mail; sanden@info.fujikura.co.jp

URL; <http://www.fujikura.co.jp/>

Category:

- A3. Hazardous Substance
- A4. Waste
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

Lead-free Eco Solder is an eco-friendly solder that does not contain halogens such as chlorine or lead.



Products/Model :
Halogen free solder

Eco-materials No.0044

Metals

Aluminum

Aluminum Materials

KOBE STEEL, LTD.

Shinko Building, 10-26, Wakinohamacho 2-chome, Chuo-ku, Kobe, Hyogo 651-8585, Japan

Tel; 078-261-5105 Fax; 078-261-4745

E-mail; Aakanen@kobelco.jp

URL; <http://www.kobelco.co.jp/>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality
- C3. Design and Material Selection

Aluminum alloy has a potential to replace parts of automobile due to its lighter density. A high weld-ability aluminum alloy sheet has similar properties to cold-rolled steel sheet for panels such as the hood and fender. Structural aluminum alloy is used to reduce the thickness and weight of welded structural materials. A recent study reported that a high strength aluminum alloy for door beam that has the same or more shock absorption ability as 150 kilogram-class high strength steel sheet could reduce car weight by 30%. This material can help increase energy efficiency of automobile at the consumption stage.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0045

Metals

Aluminum

Lubricative Anti-Corrosion Precoated Aluminum Materials

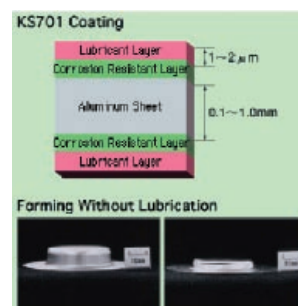
KOBE STEEL, LTD.

Shinko Building, 10-26, Wakino Hamacho 2-chome, Chuo-ku, Kobe, Hyogo 651-8585, Japan
Tel; 078-261-5105 Fax; 078-261-4745
E-mail; Aakanen@kobelco.jp
URL; <http://www.kobelco.co.jp/>

Category:

- A4. Waste
- B3. Resource Saving
- C4. Product Manufacture

Lubricative anti-corrosion pre-coated aluminum sheet is produced by new coating technology to eliminate use of lubricant during the shape formation. The material has three layers. The core layer is aluminum sheet of about 0.1 to 1.0 mm. Pre-coated layers consist of corrosion resistant layer and lubricant layer of 1-2 μ m. After-treatment of this material such as cleaning is not necessary.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0046

Metals

Aluminum alloy

Lead-Free Aluminum Alloy (KE6)

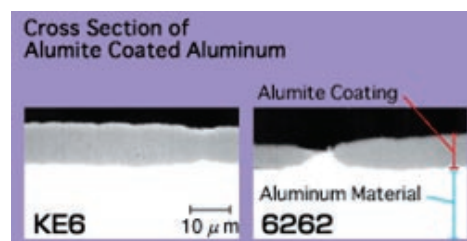
KOBE STEEL, LTD.

Shinko Building, 10-26, Wakino Hamacho 2-chome, Chuo-ku, Kobe, Hyogo 651-8585, Japan
Tel; 078-261-5105 Fax; 078-261-4745
E-mail; Aakanen@kobelco.jp
URL; <http://www.kobelco.co.jp/>

Category:

- A3. Hazardous Substance
- C6. End-of-Life

Kobe Ecology 6 (KE6) is a lead-free cutting aluminum alloy. This material is produced without any use of lead substance (a relatively highly toxic substance). The material has similar properties of steel that contains lead such as sharpness.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0047

Metals

Beverage cans

Toyo Ultimate Can (TULC)

Toyo Seikan Group

1-3-1 Uchisaiwaicho, Chiyoda-ku, Tokyo 100-8522 Japan

Tel; 03-3508-2158 Fax; 03-3503-5418

E-mail;

URL; <http://www.toyo-seikan.co.jp/>

Category:

- A1. Global Warming
- A4. Waste
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

TULC or Toyo Ultimate Can is a new type of two-piece beverage can that is produced by Toyo Seikan Group. The production of TULC could reduce CO₂ emission to less than 1/3 (2.9kg compared to 9.3kg/can). It also completely eliminates waste water generation and ultimately decreases solid waste generated amount during the production (120kg compared to 40,000kg/month). This TULC also has remarkable recyclability compared to steel "drawn and walled ironed" can.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0048

Metals

Coating alloy

Antibacterial Coating Materials

KOBE STEEL, LTD.

Shinko Building, 10-26, Wakinohamacho 2-chome, Chuo-ku, Kobe, Hyogo 651-8585, Japan

Tel; 078-261-5105 Fax; 078-261-4745

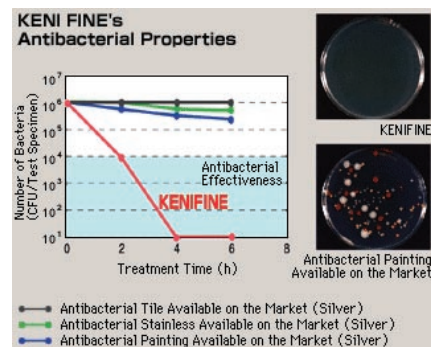
E-mail; Aakanen@kobelco.jp

URL; <http://www.kobelco.co.jp/>

Category:

- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

KENI FINE is a special alloy produced by new coating technology. KENI FINE is 10 times faster at controlling bacteria, mildew and seaweed growth than conventional products coated with silver and copper. Unlike other photo-catalysts, KENI FINE works in the dark as well. The new coating material can be applied on a wide variety of metals such as stainless steel, titanium, and aluminum. Use of this material will improve working and living environment.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0049

Metals

Magnet

La-Co Magnets to replace Strontium Ferrite

Hitachi Metals, Ltd.

3-7-1, Nishi-Shinjuku, Shinjuku-ku, Tokyo 163-1015, Japan

Tel; 03-5381-6955 Fax; 03-5381-6959

E-mail;

URL; <http://www.hitachi-metals.co.jp/index.html>

Category:

- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving
- C3. Design and Material Selection

These series enable the realization of high-residual magnetic flux density (Br) and high-intrinsic coercive force. Temperature coefficient of the intrinsic coercive force is 60%-70% less than that of conventional materials. These materials enable the production of magnets that are thinner than those produced with conventional materials. As a result, the material will help improve energy efficiency of electronic equipment. This material is used in air conditioners, refrigerator compressors, washing machines, and other electronic appliances.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0050

Metals

Steel sheet

Ultra High Strength Steel Sheet

KOBE STEEL, LTD.

Shinko Building, 10-26, Wakinohamacho 2-chome, Chuo-ku, Kobe, Hyogo 651-8585, Japan

Tel; 078-261-5105 Fax; 078-261-4745

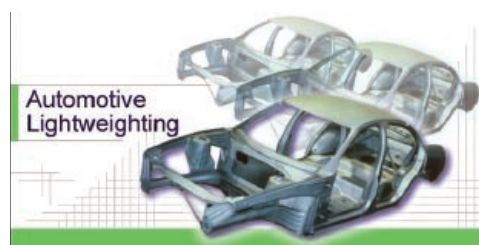
E-mail; Aakanen@kobelco.jp

URL; <http://www.kobelco.co.jp/>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality
- C3. Design and Material Selection

This ultra-high strength steel sheet enables reduction of weight of door impact beams in automobile by 15% in comparison to 100 kilogram-class press-formed beams. In addition, this material is formed many different types of shapes by press formation. It enables reduction of welding process and number of part needed. As a result, it helps increase energy efficiency of automobile at production and consumption stages.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0051

Metals

Steel sheet

Laminated Steel Sheet for Decorative Use (ECOSTEEL®)

KOBE STEEL, LTD.

Shinko Building, 10-26, Wakinohamacho 2-chome, Chuo-ku, Kobe, Hyogo 651-8585, Japan

Tel; 078-261-5105 Fax; 078-261-4745

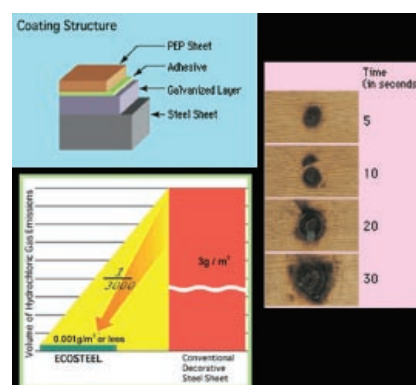
E-mail; Aakanen@kobelco.jp

URL; <http://www.kobelco.co.jp/>

Category:

- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair

ECOSTEEL® is a steel sheet covered with a high-grade decorative layer. The steel sheet consists of a PEP sheet laminated onto electro-galvanized steel sheet providing interiors with a soothing, warm atmosphere and a classy feeling with the same texture of natural wood. The material has the advantages of both wood and steel. It is as strong and durable as steel and does not deform like wood. Use of this material will improve working and living environment.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0052

Metals

Steel sheet

Chrome-Free Coated Steel Sheet (Zinkobella Greencote/GX)

KOBE STEEL, LTD.

Shinko Building, 10-26, Wakinohamacho 2-chome, Chuo-ku, Kobe, Hyogo 651-8585, Japan

Tel; 078-261-5105 Fax; 078-261-4745

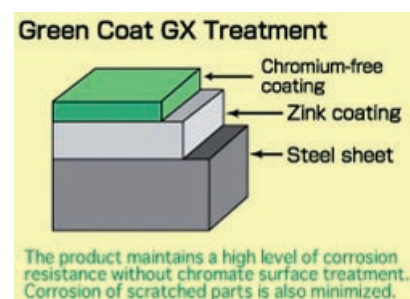
E-mail; Aakanen@kobelco.jp

URL; <http://www.kobelco.co.jp/>

Category:

- A3. Hazardous Substance
- C6. End-of-Life

This coated steel sheet consists of three layers, the core layer as steel sheet, zinc coating layer, and chromium-free coating layer. The material maintains high level of corrosion resistance. Use of toxic substances like chrome (VI) is completely eliminated during the production of the material. This material is used in chassis of audio/video equipment, machine parts, office automation equipment and various home appliances.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0053

Metals

High efficiency steel sheets for motors

Flat rolled magnetic steel sheet and strip for high-efficiency motors

Nippon Steel Corporation

2-6-3 Otemachi Chiyodaku Tokyo, 100-8071 Japan

Tel; 03-3275-5144 Fax; 03-3275-5979

E-mail; kankyo@hq.nsc.co.jp

URL; <http://www0.nsc.co.jp/kankyoku/index.html>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

Since motors are increasingly required to be highly efficient in terms of energy saving, thin high-efficiency electrical steel sheets have applications in a variety of fields, such as motors used for hard disk drive units, motors for electric vehicles, and power generators for microgas turbines. Nippon Steel developed high-tensile thin electrical steel sheets for ultra high-speed motors and high-torque, high-formability thin electrical steel sheets for hard disk drive units.



Eco-materials No.0054

Polymers

Resin

Halogen-free flame retardant PBT/ABS resin, “Toraycon” & “Toyolac”

Toray Industries, Inc.

Toray Bldg., 2-1, Nihonbashi-Muromachi 2-chome, Chuo-ku, Tokyo, 103-8666 Japan

Tel; 03-3245-5179 Fax: 03-3245-5459

E-mail;

UR; <http://www.toray.co.jp>

Category:

- A3. Hazardous Substance

Toray has developed the world's first halogen-free flame retardant PBT grade. This grade is made without using any halogen based chemicals, yet has the same performance as conventional halogenated PBT. This in turn reduces environmental loads at the disposal stage. In the field of ABS resin (UL=V2) we sell flame retardant Toyolac*. This product does not contain any halogen based flame retardant. Due to its excellent recyclability and heat stability, we regard it as a standard flame retardant grade suitable for marketing worldwide.



Eco-materials No.0055

Polymers

Silicon

Environment-conscious silicone designed for eco-friendly plastics/tires and heat-radiating materials

Shin-Etsu Chemical Co., Ltd.

6-1, Ohtemachi 2-chome, Chiyoda-ku, Tokyo, 100-0004 Japan

Tel; 03-3246-5091 Fax; 03-3246-5096

E-mail; sec-pr@shinetsu.jp

URL; <http://www.shinetsu.co.jp>

Category:

- A1. Global Warming
- A2. Air Pollution
- B1. Recyclability
- B2. Longevity
- B5. Energy Saving

Eco-plastics mixed with silicone type fire-proofing agents, even without being mixed with other types of fire-proofing agent such as halogen and phosphor, show no less prominent fire-proofing effect. In addition, since its fire-proofing effect does not deteriorate even after repeated material recycle usages, the plastics are reusable for electronic equipment elements such as bodies of personal computers. Silicone for eco-friendly tires which is applied to modified rubber, on the other hand, contributes to improving fuel consumptions as well as to reducing carbon dioxide emission. Furthermore, silicone for heat-radiating materials is effective in reducing carbon dioxide emission through its energy-saving effect.



Products/Model :
Silicone

Eco-materials No.0056

Polymers

Adhesive Tape

Eco-friendly adhesive tape without chloroethene for electrical insulation and packing

Fujikura Ltd.

1-5-1 Kiba, Koto-ku, Tokyo, 135-8512 Japan

Tel; 03-5605-1272 Fax; 03-5606-1549

E-mail; sanden@info.fujikura.co.jp

URL; <http://www.fujikura.co.jp/>

Category:

- A4. Waste
- B1. Recyclability
- B6. Environmental Purification
- B7. Usage of Recycled Material
- C6. End-of-Life

'Eco' Adhesive Tape is made from halogen-free and lead-free materials. This eliminates the discharge of dioxin and lead into the environment.



Products/Model :
Adhesive Eco-tape

Eco-materials No.0057

Polymers

heat-shrink tube/heat-resistant tube

Eco-friendly tubes without RoHS-specified chemicals or PVC

Sumitomo Electric Fine Polymer, INC.

1-950 Asashironishi, Kumatori-cho, Sennan-gun, Osaka, 590-0458 Japan

Tel; 0724-52-7192 Fax; 0724-52-7195

E-mail;

URL; <http://www.sei-sfp.co.jp>

Category:

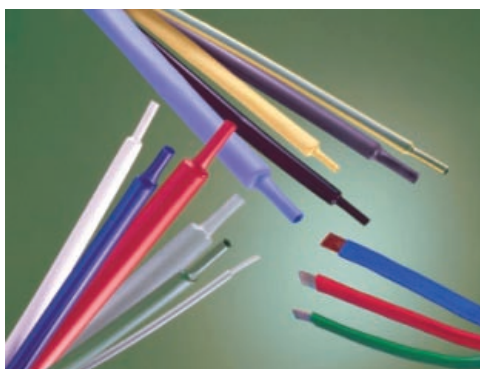
- A3. Hazardous Substance
- A4. Waste
- B4. Higher Quality
- C3. Design and Material Selection
- C6. End-of-Life

Products in the Eco-tube Series do not include substances that could harm the environment such as PVC (polyvinyl Chloride), specified bromine flame retardant or halogen. The Eco-tube Series includes the following three tubes:

Type I : Tubes without halogen

Type II : UL-conforming flame-proof tubes without PVC and specified bromine flame retardant

Type III : Thin-walled tube without PVC and specified bromine flame retardant



Products/Model :

SUMITUBE F(Z) series, IRRAX TUBE RP4, etc

Eco-materials No.0058

Polymers

Eco Light

Halogen-and-lead-free polymeric material for molded resin products

Fujikura Ltd.

1-5-1 Kiba, Koto-ku, Tokyo 135-8512 Japan

Tel; 03-5606-1272 Fax; 03-5606-1549

E-mail; wwwadmin@fujikura.co.jp

URL; <http://www.fujikura.co.jp/>

Category:

- A3. Hazardous Substance
- B1. Recyclability
- C3. Design and Material Selection

- This product does not generate dioxin, halogen gas or other toxic substances if incinerated.
- It does not contain lead and so eliminates concern about the elution of heavy metal if disposed of by landfill.
- It is recyclable and easy to recover separately from polyvinyl chloride using water because the specific gravity of its material is about 1.1 s.g., smaller than that of polyvinyl chloride (about 1.4 s.g).
- It uses polyolefin material, which can be dyed and is as flexible and as flame retardant as polyvinyl chloride.
- In the event of fire, it does not generate excessive smoke or toxic gases such as halogen.



Eco-materials No.0059

Polymers

Polyurethane foam

Sophisticated raw material of polyurethane foam

Sanyo Chemical Industries, Ltd.

11-1, Ichihashinomoto-cho, Higashiyama-ku, Kyoto-shi, Kyoto 605-0995, Japan

Tel; 075-541-4311 Fax; 075-551-2557

E-mail;

URL; <http://www.sanyo-chemical.co.jp/top/jpn/index.htm>

Category:

- A3. Hazardous Substance
- B2. Longevity
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

Polyurethane foam is widely used in our immediate surroundings. For example, flexible foam is mainly used for cushioning materials such as car seats, and rigid foam is used as heat insulating material in residence and cold storage. "Excel Flow Series", which is cross-linkable polyol, can convert to high-strength full hard Polyurethane foam, and the weight of foam can be trimmed (low density). "Vicara Flow Series" is polyol with high hydrophobic nature shows superb durability under the condition of high humidity and heat. "Aruti Flow Series" is concentrated polymer polyol that is the best suited to adjust hardness of flexible foam.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0060

Polymers

Epoxy Resin Molding Material

Epoxy Resin Molding Material for semiconductor, "Sumikon REME"

Sumitomo Bakelite Co., Ltd.

Tennnosu Parkside Bldg., 2-5-8, Higashishinagawa, Shinagawa-ku, Tokyo 140-0002, Japan

Tel; 03-5462-3472 Fax;

E-mail;

URL; <http://www.sumibe.co.jp/index.html>

Category:

- A3. Hazardous Substance
- B1. Recyclability
- C2. Material and Components Production

"Sumikon REME" is epoxy resin molding material for semiconductor sealing without using any bromic and antimonial fire retardant, as well as being compatible with lead-free solder. This product has two series. One of them is "Sumikon REME-G700 series" for reliable use, and the other is "Sumikon REME-G600 series" for general-purpose packages.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0061

Polymers

Connector, bobbin, automotive parts, and molding material

Heat-resistant molding material and molded goods for electronic components

Sumitomo Electric Fine Polymer, INC.

1-950 Asashironishi, Kumatori-cho, Sennan-gun, Osaka, 590-0458 Japan

Tel; 0724-52-7192 Fax; 0724-52-7195

E-mail;

URL; <http://www.sei-sfp.co.jp>

Category:

- A4. Waste
- B5. Energy Saving
- C4. Product Manufacture

When connectors or bobbins are mounted or processed using lead-free solder, the resin can be deformed by high temperature. TERALINK features high heat resistance, which can tolerate lead-free solder mounting, by bridging the resin. Moreover, TERALINK is superior in antifriction, enabling resin replacements for metal parts. These features contribute to the weight reduction of automotive components, thus reducing the environment load by low fuel consumption.



Products/Model :
TERALINK

Eco-materials No.0062

Polymers

Plastic material

Non-vinyl-chloride plastic material that is non-toxic on combustion

MITSUBISHI PLASTICS, INC.

5-2, Marunouchi 2-chome, Chiyoda-ku, Tokyo, 100-0005 Japan

Tel; 03-3283-4182 Fax; 03-3214-5167

E-mail;

URL; <http://www.mpi.co.jp>

Category:

- A3. Hazardous Substance
- A4. Waste
- B4. Higher Quality
- B6. Environmental Purification
- C6. End-of-Life

The material has noncrystalline polyester resin as its main component and does not use halogen group materials such as vinyl chloride. Therefore it doesn't emit harmful gas on combustion. Furthermore, since the combustion calorific value is less than half that of polyethylene, it causes little damage to a combustion furnace. It exerts manufacturability as well as current vinyl chloride from the viewpoint of manufacturing property. In addition, it has better property in intensity and thermostability.



Products/Model :
Diafix

Eco-materials No.0063

Polymers

Peritoneal dialysis solution bag

Peritoneal dialysis solution bag that is safe for incineration after use

Terumo Corporation

2-44-1, Hatagaya, shibuya-ku, Tokyo, 151-0072 Japan

Tel; 03-3374-8111 Fax; 03-3374-8399

E-mail; Kankyou@terumo.co.jp

URL; <http://www.terumo.co.jp>

Category:

- A3. Hazardous Substance
- B6. Environmental Purification
- C6. End-of-Life

Peritoneal dialysis enables patients to receive dialysis therapy at home. In 1999, Terumo became the first company in Japan to switch from PVC to polypropylene for the manufacture of continuous ambulatory peritoneal dialysis (CAPD) bags. As well as using polypropylene, we made the film thinner and eliminated outer packaging on the drainage bag, reducing the weight of discarded products by 40%.



Eco-materials No.0064

Polymers

Cosmetic sheet

Non-vinyl chloride sheet

Toppan Printing Co., Ltd.

Izumi-cho 1, Kanda, Chiyoda-ku, Tokyo 101-0024, Japan

Tel; 03-3835-5665 Fax;

E-mail;

URL; http://www.toppan.co.jp/index_f.html

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair

This is mirror-surface non-vinyl chloride sheet. This sheet is used for surface material for storage or kitchen door.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0065

Polymers

Base coat

Aqueous base coat for automobiles

Kansai Paint Co., Ltd.

3-6, Hushimi-cho, 4-chome, Chuo-ku, Osaka-shi, Osaka 541-8523 Japan

Tel; 06-6203-5531 Fax; 06-6203-5018

E-mail;

URL; <http://www.kansai.co.jp/mail/iken.html>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- B2. Longevity
- C2. Material and Components Production
- C5. Product Use, Maintenance and Repair

This base coat has been widely used to automotive coating. Because organic solvent is not used, there are no impacts on environment. In addition, this coat has high weatherability.



01年4月のカラープレゼンテーション結果:約80色の着色提案を行った。
水性ベースコート:WBC710F
塗料:ペリ自動車塗料 (ABB)

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0066

Polymers

Paint

Eco-friendly paint for car repair

Kansai Paint Co., Ltd.

3-6, Hushimi-cho, 4-chome, Chuo-ku, Osaka-shi, Osaka 541-8523 Japan

Tel; 06-6203-5531 Fax; 06-6203-5018

E-mail;

URL; <http://www.kansai.co.jp/mail/iken.html>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- C2. Material and Components Production
- C5. Product Use, Maintenance and Repair

This paint, which is targeting for car repair, features high-solid and high-flow without containing toluene and xylene. This paint conforms with the US VOC regulation. Time for base coating work can be eliminated because this paint is quick-drying and non-sand paint.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0067

Polymers

Paint system

Low-solvent painting system considering environmental conservation, "Techto Safety System"

Kansai Paint Co., Ltd.

3-6, Hushimi-cho, 4-chome, Chuo-ku, Osaka-shi, Osaka 541-8523 Japan
Tel; 06-6203-5531 Fax; 06-6203-5018

E-mail;

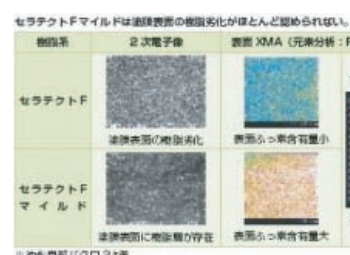
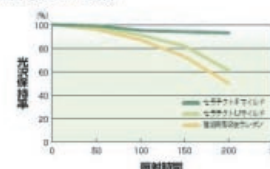
URL; <http://www.kansai.co.jp/mail/iken.html>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- C2. Material and Components Production
- C5. Product Use, Maintenance and Repair

This painting system does not include the VOC regulated substances, heavy metals, endocrine disturbing chemicals. Moreover, this system features high anti-corrosion and paintwork (heavy duty coating), thus contributing to environmental conservation.

耐候性 (SWOM 照射)



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0068

Polymers

Ink

New Eco-mark support ink for offset printing machine

Dainippon Ink And Chemicals, Incorporated

3-7-20, Nihonbashi, Chuo-ku, Tokyo 103-8233 Japan
Tel; 03-5203-7753 Fax; 03-3278-0253

E-mail;

URL; <http://www.dic.co.jp/form.html>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- B4. Higher Quality
- C2. Material and Components Production
- C5. Product Use, Maintenance and Repair

This ink is an ink for offset printing machine that conforms to Japan's new Eco mark. The new Eco Mark guidelines specify 45% as the maximum permissible content for petroleum-based solvents, which contain volatile organic compounds (VOCs). Generally, reduction of the solvent content of ink lengthens drying time. The Web World ADVAN, which we developed, features a new resin that eliminates the need for petroleum-based solvents while actually accelerating drying time.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0069

Polymers

Paint

Eco-friendly aqueous paint

Nippon Paint Co., Ltd.

2-1-2, Oyodokita, Kita-ku, Osaka-shi, Osaka 531-8511, Japan

Tel; 06-6455-9194 Fax;

E-mail;

URL; <http://www.nipponpaint.co.jp/inquiry/>

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair

This paint is an aqueous paint that copes with sick house syndrome. This paint features low VOC and ingredient without using formaldehyde, toluene, xylene, paradichlorobenzene, chlorpyrifos, and heavy metals including lead. The VOC release will be zero several days after painting.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0070

Polymers

Cross-Linkable Monomer

Cross-linkable monomer for painting resins: Waterborne coatings and emulsion

Kyowa Hakko Chemical Co., LTD.

3-2-5, Nihonbashi-Muromachi, Chuo-ku, Tokyo, 103-0022 Japan

Tel; 03-3510-3561 Fax; 03-3510-3571

E-mail; makoto.gotou@kyowa.co.jp

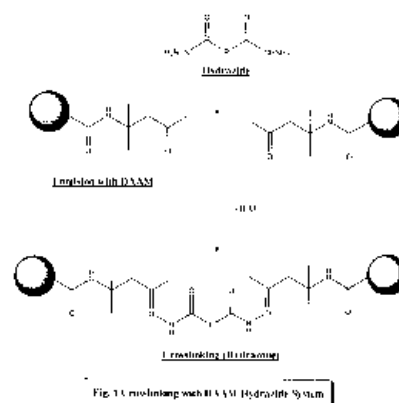
URL; <http://kyowachemical.co.jp>

Category:

- A2. Air Pollution
- A5. Resource Consumption
- B2. Longevity
- B4. Higher Quality
- C4. Product Manufacture

Waterborne emulsion coatings are being increasingly used instead of conventional solvent coatings, because of VOC regulation and other environmental issues, as well as indoor environmental considerations such as the prevention of sick house syndrome.

This cross-linkable monomer forms coatings that have a strong cross-linkable structure when a slight amount of the monomer is put into waterborne emulsion coatings and reacts with the coating while drying.



Products/Model :

Diacetone Acrylamide (DAAM)

Eco-materials No.0071

Polymers

Ink

Non-VOC ink

Toppan Printing Co., Ltd.

4-14-12, Koishikawa, Bunkyo-ku, Tokyo 112-8501, Japan

Tel; 03-3817-2525 Fax; 03-3817-6825

E-mail;

URL; <http://www.kyodoprinting.co.jp/kphome/welcome.html>

Category:

- A3. Hazardous Substance
- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C6. End-of-Life

The ingredient of ink is changed from general bean oil to vegetable oil for 100%, which realizes complete elimination of VOC.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0072

Polymers

Bonded fabric

Polyester bonded fabric

Kanebo, Ltd.

3-20-20, Kaigan, Minato-ku, Tokyo 108-8080, Japan

Tel; 03-5446-3002 Fax;

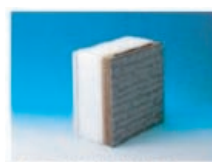
E-mail;

URL; <http://www.kanebo.co.jp/index.htm>

Category:

- A3. Hazardous Substance
- B1. Recyclability
- B5. Energy Saving
- B7. Usage of Recycled Material
- C5. Product Use, Maintenance and Repair

Formalin-free polyester heat insulator "Perfect Barrier" is the safe insulator for residential use that consists of bonded fabric recycled from discarded plastic bottles. After use, it can be reused. It doesn't generate formaldehyde that is the cause of sick house syndrome because it doesn't include adhesive at all. Besides, it can be cut easily with your hands without strewing dust, which ensures safe work.



「パーフェクトバリア」の断面図



「パーフェクトバリア」の使用例
(エンゼルハウス(株)写真提供)

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0073

Polymers

Coating Material

Coating material that enabled the use of aqueous developing solution

Sumitomo Bakelite Co., Ltd.

Tennnosu Parkside Bldg., 2-5-8, Higashishinagawa,
Shinagawa-ku, Tokyo 140-0002, Japan
Tel; 03-5462-3472 Fax;
E-mail;
URL; <http://www.sumibe.co.jp/index.html>

Category:

- A3. Hazardous Substance
- B3. Resource Saving
- B5. Energy Saving
- C2. Material and Components Production

Along with the rapid increase of semiconductor memory capacity and the demand for higher-speed response, narrower circuit width and higher reliability are required. In response to this request, positive photosensitive wafer coating resin, "Sumirezin Excel RCRC8000" series was developed. This coating resin allowed using alkaline water solution as developing solution and pure water as rinse liquid. In consequence, it became unnecessary to use special solvent in semiconductor manufacturing. Besides, this product began to replace conventional plastic sealing as wafer level package, enabling to save resource and energy by curtailing a manufacturing process.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0074

Polymers

Paint

Paint: No release of VOC, measures for sick house syndrome

Mitsubishi Chemical Corp.

33-8, Shiba 5-chome, Minato-ku, Tokyo 108-0015
Tel; 03-6414-3730 Fax; 03-6414-3745
E-mail; mccpr@cc.m-kagaku.co.jp
URL; <http://www.m-kagaku.co.jp/index.htm>

Category:

- A3. Hazardous Substance
- B4. Higher Quality

The paint is an adhesive that contains no VOC such as formaldehyde, toluene and xylene, a part of measures for sick house syndrome. Two types for film, wood and paper bond maintains the same bonding performance and durability as conventional products, a top level in the industry.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0075

Polymers

Toray Waterless Plate

Waterless plate for printing companies, using no water/toxic solvent

Toray Industries, Inc.

8-1, Mihama 1-chome, Urayasu, Chiba 279-8555 Japan

Tel; 047-350-6048 Fax; 047-350-6071

E-mail; Yukinobu_Uchida@nts.toray.co.jp

URL; <http://www.waterless-print.com/index.php>

Category:

- A3. Hazardous Substance
- A4. Waste
- B3. Resource Saving
- C4. Product Manufacture
- C5. Product Use, Maintenance and Repair

Conventional printing process applies theory that water repels ink in order to generate images, thus using a lot of water (mixed with toxic substances such as IPA). On the other hand, "waterless printing" applies characteristics of silicon to repel water. The silicon parts used for printing are not attached with ink, which allows printing with no water used. In addition, with "Toray Waterless Plate," printing board is produced by water-development method which produces no waste fluid to be recovered, thereby considerably reducing amount of chemical agent being used and waste fluid.



Products/Model :

Toray Waterless Plate

Eco-materials No.0076

Polymers

Superplasticizer

Eco-friendly powder type COA FLOW NF-100 for cement mortar

Taiheiyo Cement Corporation

St. Luke's Tower, 8-1, Akashi-cho, Chuo-ku, Tokyo, 104-8518 JAPAN

Tel; 03-6226-9020 Fax; 03-6226-9150

E-mail;

URL; <http://www.taiheiyo-cement.co.jp>

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- C3. Design and Material Selection
- C4. Product Manufacture
- C5. Product Use, Maintenance and Repair

This specially designed polycarboxylic acid superplasticizer has high cement dispersion and small delay of setting time. A powder-type superplasticizer, it can be safe for human body as well as environment since it does not contain formalin.



Eco-materials No.0077

Polymers

Para-linked aramid fiber

High-strength and heat-resistant fiber for automotive friction material

Teijin Limited

2-1-1, Uchisaiwai-cho, Chiyoda-ku, Tokyo, 100-8585 Japan

Tel; 03-3506-4194 Fax; 03-3506-4127

E-mail; ekoha@teijin.co.jp

URL; <http://www.teijin-eco.com>

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

TWARONR, a para-linked aramid fiber, possesses high strength and excellent heat resistance. It is attracting attention for use in frictional materials for use in vehicle components such as disc pads, break linings and clutch facings as a substitute for asbestos.



Products/Model :
TWARON R

Eco-materials No.0078

Polymers

Vinyl chloride

Energy-saving conscious vinyl chloride resin for sashes and tubes application

Shin-Etsu Chemical Co., Ltd.

6-1, Ohtemachi 2-chome, Chiyoda-ku, Tokyo, 100-0004 Japan

Tel; 03-3246-5091 Fax; 03-3246-5096

E-mail; sec-pr@shinetsu.jp

URL; <http://www.shinetsu.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B2. Longevity
- C4. Product Manufacture
- C5. Product Use, Maintenance and Repair

Since the ratio of petroleum use is lower in the vinyl chloride resin (salt 57%, petroleum 43%) than conventional plastics, it poses lower environmental burden in contrast to commodity plastics under LCA standard. Chlorinated vinyl sash, for example, shows higher thermal insulation than other materials, which allows energy and power saving of air-conditioner as well as significant reduction of carbon dioxide. Chlorinated tube, on the other hand, shows high durability, basically with longer life-span than other materials.



Products/Model :
Polyvinyl chloride

Eco-materials No.0079

Polymers

Stretchable fabric

DIAFLORA®, stretchable fabric permitting weight-saving / ultra-thin-modification of urethane foam

Toyobo Co., Ltd.

2-8 Dojimahama 2-chome, Kita-ku, Osaka, 530-8230 Japan

Tel; 06-6348-3417 Fax; 06-6348-3393

E-mail; kankyo@ho.toyobo.co.jp

URL; <http://www.toyobo.co.jp>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

DIAFLORA® is a stretchable fabric having the advantage of PELPRENE® and PET yarn. The combination brings outstanding characteristics to the fabric, which includes elasticity recoverability, strength and excellent design. DIAFLORA® is superior to urethane foam in various function such as moisture recovery, more lightweight and more environmentally friendly.



Products/Model :

Office Chairs Made by DIAFLORA®

Eco-materials No.0080

Polymers

Polycarbonatediol(PCD)

Nature conservation-oriented polyurethane resin materials for artificial leather

Ube Industries, Ltd.

Seavans North Bldg., 1-2-1 Shibaura, Minato-ku, Tokyo 105-8449 Japan

Tel; 03-5419-6175 Fax; 03-5419-6255

E-mail; fine@ube-ind.co.jp

URL; <http://www.ube-ind.co.jp>

Category:

- A2. Air Pollution
- A5. Resource Consumption
- B2. Longevity
- B4. Higher Quality
- C1. Material Extraction

Polyurethanes produced from polycarbonatediol (PCD) are superior to the ones from polyetherdiol or polyesterdiol in heat, hydrolytic, oil, and weather resistance and have a smooth texture. This polyurethane resin is used to produce artificial leather which provides a high quality equivalent to natural leather products and thereby helps to conserve natural resources.



Products/Model :

UH-CARB (ETERNACOLL® UH),
UHC-CARB (ETERNACOLL® UHC),
UC-CARB (ETERNACOLL® UC),
UM-CARB (ETERNACOLL® UM)

Eco-materials No.0081

Polymers

Polyethylen piping system for gas

Polyethylen piping system for gas

Hitachi Metals, Ltd.

Shinjyuku park tower 3-7-1, Nishishinjyuku, Shinjyuku-ku, Tokyo 163-1015, Japan

Tel; 03-5381-6955-6958 Fax; 03-5381-6959

E-mail;

URL; <http://www.hitachi-metals.co.jp/>

Category:

- A3. Hazardous Substance
- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material

Hitachi Metals, Ltd. has developed a polyethylen piping system with an excellent recyclability in stead of the conventional PVC piping. The product has superb earthquake resistance, corrosion resistance, workability and high reliability, with the developed electrofusion joint system for gas pipe.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0082

Polymers

Biodegradable resin

“LANDY”-series products for the prevention of global warming

Miyoshi Oil & Fat Co., Ltd.

3-8-12, Midori, Sumida-ku, Tokyo, 130-0021 Japan

Tel; 03-5624-4170 Fax; 03-5624-4177

E-mail; TAKESHITAS@so.miyoshi-yushi.co.jp

URL; <http://www.miyoshi-yushi.co.jp>

Category:

- A1. Global Warming
- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material

“LANDY”-series products contribute the prevention of global warming. Their raw material is mainly carbon-neutral, bio-base polymer which decomposes easily in an alkaline atmosphere, and therefore the resource recycling of the product is possible. Moreover, the products may not damage the incinerator in which they are burned, because the calorie of the combustion is only half of that of the usually used resin.



Products/Model :

Landy PL-1000, PL-2000, PL-3000 Landy CP-100, CP-300

Eco-materials No.0083

Polymers

Recycled polyester resin/fiber

“Ecosensor” Polyester-resin/fiber made by chemical recycling for quality textiles

ASAHI KASEI FIBERS CORPORATION

Shin-Daibiru Bldg., 2-6, Dojimahama, 1-chome, Kita-ku, Osaka
530-8205, Japan
Tel; 06-6347-3511 Fax; 06-6347-3513
E-mail;
URL; <http://www.ak-fibers.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving
- B7. Usage of Recycled Material

This quality fiber is made possible by the chemical recycling process of Asahi Kasei Fibers, which breaks down the polymers of used polyester products to their two constituent monomers and then separates, purifies, and polymerizes them to produce pure polyester polymer.



Products/Model :
Ecosensor

Eco-materials No.0084

Polymers

Interior Trimming PP Resin Unification

Car interior trim PP resin unification: Recyclable

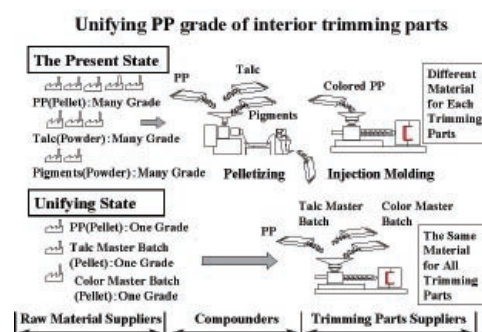
Fuji Heavy Industries Ltd.

1-7-2 Nishishinjuku, Shinjuku-ku, Tokyo Japan
Tel; 03-3347-2111 Fax;
E-mail;
URL; <http://www.fhi.co.jp/index.html>

Category:

- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- C3. Design and Material Selection
- C6. End-of-Life

The unification of each interior part material also makes its waste same material. In some cases, this can eliminate or minimize traditional waste materials. In addition, this system enables easy reuse of reprocessed materials even when spent parts from unified materials are collected.



Products/Model :
Unifying PP grade of interior trimming parts

Eco-materials No.0085

Polymers

Plastic Palette

Recycled plastic palette made from insulating cover waste

Fujikura Ltd.

1-5-1 Kiba, Koto-ku, Tokyo 135-8512 Japan

Tel; 03-5606-1237 Fax; 03-5606-1541

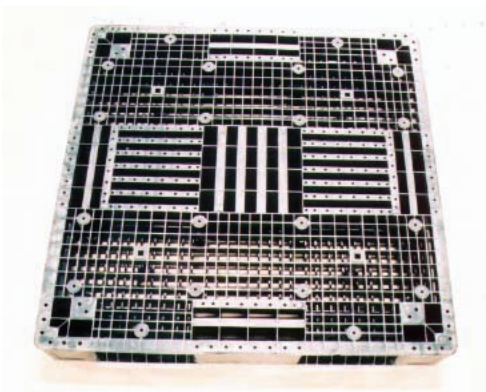
E-mail; yoshitom@fujikura.co.jp

URL; <http://www.fujikura.co.jp/>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C5. Product Use, Maintenance and Repair

In the past, insulating plastic covers used at the electric company's construction site were disposed of as industrial waste. However, they are now reprocessed and palletized to make plastic palettes, used for the storage and transportation of construction company equipment. Thus, this process has opened the door to the recycling of waste from insulating covers made from polyethylene or polypropylene.



Eco-materials No.0086

Polymers

Recycled polyethylene pipe waste

Pellet made from recycled polyethylene pipe waste

SAIBU GAS CO., LTD.

1-17-1, Chiyo, Hakata-ku, Fukuoka-city, 812-0044 Japan

Tel; 092-633-2235 Fax; 092-633-2289

E-mail; s_kuriyama@saibugas.co.jp

URL; <http://www.saibugas.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C6. End-of-Life

Our company introduces a recycling system for polyethylene pipe waste from gas pipe construction.

We reclaim polyethylene pipe waste and deliver it to recycling companies. It is then pelletized to produce recycled products such as stationery. The recycling system reduces waste and saves resources.



Eco-materials No.0087

Polymers

Pavement material

Freeze-preventing “Rubit pavement”

Sumitomo Rubber Industries, Ltd.

6-9, Wakihamma-cho, 3-chome, Chuo-ku, Kobe-shi, Hyogo 651-0072, Japan

Tel; 078-265-3000 Fax;

E-mail;

URL; <http://www.srigroup.co.jp/ecopedia/index.html>

Category:

- A4. Waste
- B1. Recyclability
- B3. Resource Saving
- B5. Energy Saving
- C6. End-of-Life

It is "Rubit pavement," which prevents freeze by recycled rubber and unique asphalt. It comes under the spotlight as a new road in snow-covered cold district. Exploiting a superior characteristic in such as freeze-preventing efficiency or increased slipping-resistance, bearing fruit in Japanese nationwide snow-covered cold regions from Hokkaido, Tohoku down. "Rubit pavement" adopts an original technology that the rubber of waste tire is crumbled to mix into unique asphalt, contributing to tire-recycling.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0088

Polymers

Fiber

Fiber made from recycled PET plastic bottles, “Bell Recycle”

Kanebo, Ltd.

3-20-20, Kaigan, Minato-ku, Tokyo 108-8080, Japan

Tel; 03-5446-3002 Fax;

E-mail;

URL; <http://www.kanebo.co.jp/index.htm>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

Recycling plastic products is one of significant policies to preserve global environment. In that context, our fiber “Bell Recycle” is a valuable product because it uses recycled PET plastic bottles as its raw material. “Bell Recycle”, which is the blend of polyester made from recycled PET plastic bottles and cotton wool, can be widely used for various kinds of uniforms.



スクール ユニフォーム オフィス ユニフォーム サービス ユニフォーム

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0089

Polymers

Ink

Recycleable vegetable oil ink for offset printing

Kyodo Printing Co., Ltd.

Izumi-cho 1, Kanda, Chiyoda-ku, Tokyo 101-0024, Japan

Tel; 03-3835-5665 Fax;

E-mail;

URL; http://www.toppan.co.jp/index_f.html

Category:

- A3. Hazardous Substance
- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C6. End-of-Life

This is ink made of recycled vegetable oil refined from edible waste oil disposed from school lunch facilities and food-service industry.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0090

Polymers

Cellulose-fiber manufactured by cuproammonium technique

“Bemberg,” made from unutilized material (cotton linter)

ASAHI KASEI FIBERS CORPORATION

2-6, Dojimahama, 1-chome, Kita-ku, Osaka 530-8205 Japan

Tel; 06-6347-3600 Fax; 06-6347-3635

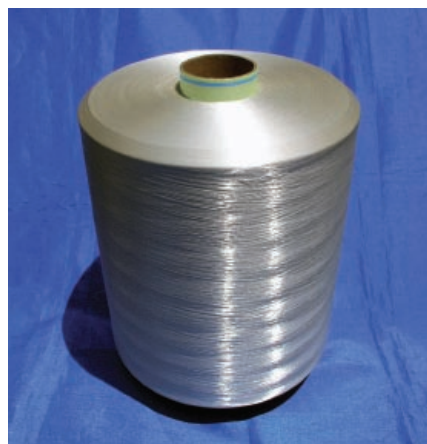
E-mail;

URL; <http://www.ak-bemberg.com>

Category:

- A4. Waste
- A5. Resource Consumption
- B6. Environmental Purification
- C1. Material Extraction
- C6. End-of-Life

Bemberg is a recycled cellulosic fiber made from cotton linter. Cotton linter is collected from cotton, annual plant, and is an environmentally-friendly material. As well as being a recycled cellulosic fiber it is biodegradable and a natural environment-friendly ecology material. It is certified as an Eco-label product by Japan Environment Association.



Products/Model :
Bemberg

Eco-materials No.0091

Polymers

Cellulosic non-woven made by cuproammonium-technique

Non-woven fabric with the use of unutilized material (cotton linter)

ASAHI KASEI FIBERS CORPORATION

2-6, Dojimahama, 1-chome, Kita-ku, Osaka 530-8205 Japan

Tel; 06-6347-3390 Fax; 06-6347-3387

E-mail;

URL; <http://www.bemliese.com>

Category:

- A3. Hazardous Substance
- A4. Waste
- B4. Higher Quality
- C1. Material Extraction
- C5. Product Use, Maintenance and Repair

Bemliese® consists of cotton linter which is generally wasted. Cotton linter are short fibers covering the cotton seed. As the material of Bemliese® is pure cellulose, it biodegrades quickly and incinerates with very low levels of gas emission.



Products/Model :

Bemliese®

Eco-materials No.0092

Polymers

Biodegradable Plastic

Daicel Chemical Industries, Ltd.

Daicel Chemical Industries, Ltd.

2-18-1, Konan, Minato-ku, Tokyo, 108-8230 Japan

Tel; 03-6711-8164 Fax; 03-6711-8168

E-mail; ta_murakami@daicel.co.jp

URL; <http://www.daicel.co.jp/celgreen/>

Category:

- A1. Global Warming
- A4. Waste
- B6. Environmental Purification
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

CELGREEN is a biodegradable plastic. It creates biomass through a natural reducing system (degraded by microbes in soil, seawater, rivers and lakes) or composting treatment after use, ultimately decomposing into carbon dioxide and water. This makes it extremely environmentally-friendly. Incineration heat and carbon dioxide generated on incineration is the same as that of polyethylene and the effect on the environment is extremely low compared with general-purpose plastic products.



Products/Model :

CELGREEN PH7, CBS PCA

Eco-materials No.0093

Polymers

Fibers

“Ecodea” Polylactic Acid Fibers

Toray Industries, Inc.

Toray Bldg., 2-1, Nihonbashi-Muromachi 2-chome, Chuo-ku, Tokyo,
103-8666 Japan

Tel; 03-3245-5179 Fax; 03-3245-5459

E-mail;

URL; <http://www.toray.co.jp>

Category:

- A1. Global Warming
- B3. Resource Saving

Poly lactide (PLA) is a biodegradable polymer manufactured by polymerizing the lactic acid obtained from fermenting the starch of corn, the world's most common type of grain. It is a genuinely environmentally friendly material suitable for use in the 21st century since it uses recyclable natural resources as raw materials, requires no petrochemicals, and can be easily returned to the environment after use.



Eco-materials No.0094

Polymers

Cosmetics

Biodegradation cosmetics

Yamanouchi Pharmaceutical Co., Ltd.

2-3-11, Motomachi, Nihonbashi, Chuo-ku, Tokyo 103-8411, Japan

Tel; 03-3244-3143 Fax;

E-mail;

URL; <http://www.yamanouchi.com/jp/>

Category:

- A3. Hazardous Substance
- A4. Waste
- B1. Recyclability
- C6. End-of-Life

The Minon Series is weak-acid and natural soaps that feature biodegradation and low impacts on rivers when disposed from homes. Also, these soaps have few impacts on living beings. This soap has advantages in low impacts on environment after being disposed from homes.



環境配慮型製品「ミノン」シリーズ

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0095

Polymers

Acrylic Powder with plastisol

DIANALR LP is an acrylic powder used for plastisol that saves energy during the coating process and has minimal environmental impact, even on incineration.

Mitsubishi Rayon Co., Ltd.

6-41, Konan 1-Chome, Minato-ku, Tokyo, 108-8506 Japan
speciality chemicals department A
Tel; 03-5495-3098 Fax; 03-5495-3216
E-mail;
URL; <http://www.mrc.co.jp/>

Category:

- A2. Air Pollution
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C4. Product Manufacture

This acrylic powder has a variety of applications such as car undercoats or carpet tile backing material. It is an environmentally-friendly material since it offers better coating performance than existing products even at lower processing temperature and has minimal environmental impact even on incineration.



Products/Model :
DIANALR LP

Eco-materials No.0096

Polymers

Medicine

Medicine packages featuring low environmental load

Sankyo Co., Ltd.

5-1, Motomachi, 3-chome, Nihonbashi, Chuo-ku, Tokyo 103-8426, Japan
Tel; 03-5255-7111 Fax;
E-mail;
URL; <http://www.sankyo.co.jp/>

Category:

- A3. Hazardous Substance
- A4. Waste
- B1. Recyclability
- C6. End-of-Life

We have been promoting Reduce, Reuse, and Recycle for medical packages. We are using recycling paper with 50-60% recycling rate as the material for paper packages. Moreover, we are using 100% recycling paper for cases. For transparent packages (PTP sheet), vinyl chloride is used conventionally but we changed it to polypropylene, which features low environmental impacts.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0097

Polymers

Hand Soap

Medicated hand soap (refill)

Kose Corporation

3-6-2, Nihonbashi, Chuo-ku, Tokyo 103-8251, Japan

Tel; 03-3273-1675 Fax;

E-mail;

URL; https://www.kose.co.jp/office/form_m.html

Category:

- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- B3. Resource Saving
- C1. Material Extraction

This medicated hand soap employed a standing pouch as a refill. As a container can be used repeatedly, it doesn't come to waste after it is used only once.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0098

Polymers

Medicine

Eco-friendly medicine packages

Daiichi Pharmaceutical Co., Ltd.

3-14-10, Nihonbashi, Chuo-ku, Tokyo 103-8234, Japan

Tel; 03-3273-7114 Fax; 03-3272-7348

E-mail;

URL; <http://www.daiichipharm.co.jp/index2.html>

Category:

- A3. Hazardous Substance
- A4. Waste
- B1. Recyclability
- C6. End-of-Life

For medicine packages, we are contributing to environment by reducing materials, utilizing recycled materials, avoiding harmful materials, promoting waste separation, using easy-to-crash materials. We are using a plastic bottle for contrast media, which is lighter and recycleable than a glass bottle. Also, we are changing the PTP sheet to polypropylene.



造影剤のプラスチックボトル



ポリプロピレン製のPTP包装

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0099

Polymers

Medicine

PTP package made of polypropylene

Chugai Pharmaceutical Co., Ltd.

2-1-9, Kyobashi, Chuo-ku, Tokyo 104-8301, Japan

Tel; 03-3273-0881 Fax; 03-3281-6607

E-mail;

URL; http://www.chugai-pharm.co.jp/hc/chugai_top.jsp

Category:

- A3. Hazardous Substance
- A4. Waste
- B1. Recyclability
- C6. End-of-Life

We have changed packaging from heat-seal to PTP. We are also making reduction of vinyl chloride. To enhance energy saving, we are reducing packaging materials.



PTP (変更後)

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0100

Polymers

Medicine

Eco-friendly medicine packages

Fujisawa Pharmaceutical Co., Ltd.

3-4-7, Doshu-cho, Chuo-ku, Osaka-shi, Osaka 541-8514, Japan

Tel; 06-6206-7858 Fax;

E-mail;

URL; <http://www.fujisawa.co.jp/>

Category:

- A3. Hazardous Substance
- A4. Waste
- B1. Recyclability
- C6. End-of-Life

Disposing medicine packages is one of major environmental impacts of medicine. We are conducting material integration from the viewpoint of reduction of vinyl chloride, package simplification, and waste separation.

For cephalosporin drip infusion kits, we reduced materials, integrated materials into non-chloride plastics, and size reduction.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0101

Polymers

Biodegradable plastic

LACEA™ (Biodegradable Plastic)

Mitsui Chemicals Corporation

Shiodome City Center, 5-2, Higashi-Shimbashi 1-chome, Minato-ku, Tokyo 105-7117

Tel; 03-6253-2100 Fax; 03-6253-4245

E-mail;

URL; <http://www.mitsui-chem.co.jp/index.htm>

Category:

- A3. Hazardous Substance
- C6. End-of-Life

LACEA™ is a biodegradable poly-lactic plastic resin produced from lactic acid. This polymer material is produced by fermenting glucose obtained from corn and potatoes, and sucrose obtained from sugarcane and beets. The incineration of LACEA™ acid does not increase the amount of carbon dioxide in the air because the carbon source being burned has already been absorbed by plant. A study by SRI, a consulting company in the USA, reported that the total consumption of fossil resources when poly lactic acid is produced and finally disposed is 30% less than when PP is used. The LACEA is currently used for packaging containers, agricultural and civil engineering materials, compost bags, and cards. This plastic is certified for Japan's Green Plastic Certification. It also meet the requirements of Germany's compostable material standards.



Examples of LACEA™ products

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0102

Polymers

Coated fertilisers

Long™ coated fertilizer and Ecolong™ environmentally degradable coated fertilizer

Asahi Kasei Corporation

Hibiya-Mitsui Building1-2 Yurakucho 1-chome, Chiyoda-ku Tokyo 100-8440, Japan

Tel; 03-3507-2060 Fax; 03-3507-2495

E-mail;

URL; <http://www.asahi-kasei.co.jp/>

Category:

- A5. Resource Consumption
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

These fertilizers coated with a new type coating material are made by readily bio-degradable and photolysis resin. Use of this coated fertilizer will enhance the effectiveness of chemical fertilizer to reduce residual amount of applied chemicals. In addition, the coated layer of fertilizers is readily biodegradable. As a result, the bioaccumulation of polymer coating material will be eliminated.



Ecolong™

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0103

Polymers

Decorative pannel

Prearmour

Dai Nippon Printing Co., Ltd.

1-1, Ichigaya Kagacho 1-chome Shinjuku-ku, Tokyo 162-8001, Japan

Tel; 03-5225-8480 Fax; 03-5225-8489

E-mail; info@mail.dnp.co.jp

URL; <http://www.dnp.co.jp/>

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair

Prearmour is an environmentally conscious decorative paneling that does not contain any of the 12 designated VOCs which cause "Sick house" syndrome. The product is unique in that it has a rigid surface to prevent scratch during transportation. In addition, for the purpose of design and to cover up the uneven surface of the paneling, a design is printed onto the surface of the paneling.



Prearmour

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0104

Polymers

Dioxin adsorbant film

Suiaru-Power Dioxin-Absorbent film

Sumitomo Chemical Co., Ltd.

27-1, Shinkawa 2-chome, Chuo-ku, Tokyo 104-8260, Japan

Tel; 03-5543-5500 Fax; 03-5543-5901

E-mail;

URL; <http://www.sumitomo-chem.co.jp/>

Category:

- A3. Hazardous Substance
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

Suiaru-Power dioxin absorbent film is a new complex resin film that can absorb heavy metals and such poisonous gases as the dioxins produced at garbage incineration facilities. Garbage bags made from this film have been approved by local government bodies. In addition, the development of other product applications, such as kitchen-use water drainage garbage bags and functional papers, is under way.



Dioxin-absorbant film used in garbage bags

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0105

Polymers

Heat resistant resin

ARLEN™

Mitsui Chemicals Corporation

Shiodome City Center, 5-2, Higashi-Shimbashi 1-chome, Minato-ku, Tokyo 105-7117

Tel; 03-6253-2100 Fax; 03-6253-4245

E-mail;

URL; <http://www.mitsui-chem.co.jp/index.htm>

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- C3. Design and Material Selection

This semi aromatic poly-amide material is for use with lead-free solder in the manufacturing of electronic parts. Melting point of lead-free solder is normally higher than existing lead solder. The reflow temperature for soldering electronic parts to substrates, therefore, has to be higher than before. As a result, there is a need for heat-resistant resins that can withstand temperatures higher than those previously used as a base material for circuit board and electronic parts. This resin has excellent rigidity and a high melting point (320°C), equivalent to that of super engineering plastic, and can be used under reflow conditions with lead-free solder.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0106

Polymers

Inorganic barrier film

IB Film

Dai Nippon Printing Co., Ltd.

1-1, Ichigaya Kagacho 1-chome Shinjuku-ku, Tokyo 162-8001, Japan

Tel; 03-5225-8480 Fax; 03-5225-8489

E-mail; info@mail.dnp.co.jp

URL; <http://www.dnp.co.jp/>

Category:

- A3. Hazardous Substance
- C3. Design and Material Selection
- C6. End-of-Life

This inorganic barrier film for packaging is free of chlorine resin, which is one of the sources of dioxin emissions. This product has been used for food packages that require barriers and liquid soups, and for small bags for liquid seasoning.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0107

Polymers

Membrane separation

Eutec™ oil-water separators

Asahi Kasei Corporation

Hibiya-Mitsui Building 1-2 Yurakucho 1-chome, Chiyoda-ku Tokyo
100-8440, Japan

Tel; 03-3507-2060 Fax; 03-3507-2495

E-mail;

URL; <http://www.asahi-kasei.co.jp/>

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

Eutec™ oil-water separator is made of ultra-fine-fiber membranes which are produced by Asahi Kasei non-woven fabric technology. This separator can be used to remove water from either production oil at petroleum refineries, or lubricant and hydraulic oil, or from distillation-recovered hydrophobic solvents such as fluorocarbons. It can also be used to remove oil from either cooling water at ethylene production plants, or ship bilge water; or aqueous cleaning agents in part cleaning lines.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0108

Polymers

Membrane separation

Acclima™ Biological Membrane Carrier

Asahi Kasei Corporation

Hibiya-Mitsui Building 1-2 Yurakucho 1-chome, Chiyoda-ku Tokyo
100-8440, Japan

Tel; 03-3507-2060 Fax; 03-3507-2495

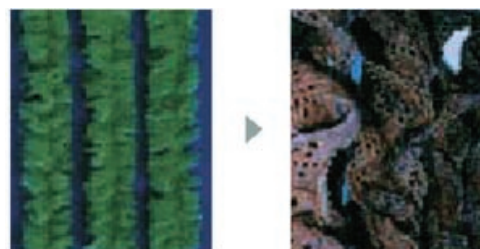
E-mail;

URL; <http://www.asahi-kasei.co.jp/>

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

Acclima™ membrane carrier is made of Saran™ fiber. When this membrane carrier is used, microorganisms in the water will adhere to a carrier, where they will form a biological membrane. Contaminants will be decomposed by the microorganisms when it is brought into contact with the membrane.



Acclima™ before and after use (scales differ).

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0109

Polymers

Non woven fabric

Non-woven Fabric for Sanitary Articles

Mitsui Chemicals Corporation

Shiodome City Center, 5-2, Higashi-Shimbashi 1-chome, Minato-ku, Tokyo 105-7117

Tel; 03-6253-2100 Fax; 03-6253-4245

E-mail;

URL; <http://www.mitsui-chem.co.jp/index.htm>

Category:

- A1. Global Warming
- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- C3. Design and Material Selection

This thinner non-woven fabric is used in paper diaper covers. This material could reduce the raw material energy consumption during the production or manufacture stage. Actual achievements reported by the company indicated that raw material consumption would reduce 40% compared to conventional material. Similarly, waste generation also reduce approximately 40%, while energy consumption is less than 50% compared to previous production process.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0110

Polymers

Plastic

PP mixed with wood powder, bamboo, corn starch, etc

Mitsui Chemicals Corporation

Shiodome City Center, 5-2, Higashi-Shimbashi 1-chome, Minato-ku, Tokyo 105-7117

Tel; 03-6253-2100 Fax; 03-6253-4245

E-mail;

URL; <http://www.mitsui-chem.co.jp/index.htm>

Category:

- A5. Resource Consumption
- B3. Resource Saving
- B7. Usage of Recycled Material
- C3. Design and Material Selection

These various poly-propylene (PP) materials are produced by mixing poly-propylene with various waste materials for more effective use of resources. At the moment, three types of mixed PP material available. The first type is PP mixed with wood powder to reduce use of wood as a building material. The second type is PP mixed with bamboo for egg containers as a substitute for paper. The third type is PP mixed with corn starch to be used in lunch boxes in convenience stores. Use of these materials will enhance resource efficiency.



PP mixed with bamboo



PP mixed with corn starch

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0111

Polymers

Plastic card

Ecofit Card (P-type)

Dai Nippon Printing Co., Ltd.

1-1, Ichigaya Kagacho 1-chome Shinjuku-ku, Tokyo 162-8001, Japan

Tel; 03-5225-8480 Fax; 03-522-8489

E-mail; info@mail.dnp.co.jp

URL; <http://www.dnp.co.jp/>

Category:

- A3. Hazardous Substance
- C3. Design and Material Selection
- C6. End-of-Life

Ecofit Card (P-type) is made of non halogen flame retardant plastic. Halogen flame retardants might transform to dioxin during the incineration of discarded cards. Incineration of the Eco-fit card, thus, would not release such substance to environment. This card has excellent mechanical strength and chemical resistance.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0112

Polymers

Plastic card

Ecofit Card (B-type)

Dai Nippon Printing Co., Ltd.

1-1, Ichigaya Kagacho 1-chome Shinjuku-ku, Tokyo 162-8001, Japan

Tel; 03-5225-8480 Fax; 03-5225-8489

E-mail; info@mail.dnp.co.jp

URL; <http://www.dnp.co.jp/>

Category:

- A3. Hazardous Substance
- C3. Design and Material Selection
- C6. End-of-Life

The card itself is made from agricultural products, such as corn, rape seed, and soybean. These sources are renewable, environmentally-friendly, and biodegradable. These organics could easily break down when exposed to natural microbes in the soil, sea, rivers, lakes and marshes.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0113

Polymers

Plastic resin

HI-ZEX™ for thinner bottles

Mitsui Chemicals Corporation

Shiodome City Center, 5-2, Higashi-Shimbashi 1-chome, Minato-ku, Tokyo 105-7117

Tel; 03-6253-2100 Fax; 03-6253-4245

E-mail;

URL; <http://www.mitsui-chem.co.jp/index.htm>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

HI-ZEX™ is a high density poly ethylene (HDPE) resin. Its high performance properties enable reduction of thickness of bottles. This material could reduce container weight by 15% compared to existing HDPE bottles while maintains performance qualities, including rigidity and strength. Reduction of container weight would reduce environmental impacts during the transportation of containers.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0114

Polymers

Plastic resin

EVOLUE™ for packaging material

Mitsui Chemicals Corporation

Shiodome City Center, 5-2, Higashi-Shimbashi 1-chome, Minato-ku, Tokyo 105-7117

Tel; 03-6253-2100 Fax; 03-6253-4245

E-mail;

URL; <http://www.mitsui-chem.co.jp/index.htm>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality
- C3. Design and Material Selection

EVOLUE™ is a linear low density poly-ethylene resin produced by vapor-phase process. This polymer material is proved to reduce the thickness of bottles by 20-30% compared to existing products while maintaining the strength at the same level. Reduction of container weight would reduce environmental impacts during the transportation of containers.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0115

Polymers

Plastic resin

Sumitomo Chemical Co., Ltd.

Sumitomo Chemical Co., Ltd.

27-1, Shinkawa 2-chome, Chuo-ku, Tokyo 104-8260, Japan

Tel; 03-5543-5500 Fax; 03-5543-5901

E-mail;

URL; <http://www.sumitomo-chem.co.jp/>

Category:

- A4. Waste
- B1. Recyclability
- C6. End-of-Life

Sumitomo TPE is a poly-olefin thermoplastic resin that is light weight, excellent heat resistance, good weather-ability, and chemical resistance and mold-ability. This special plastic is recyclable and easy to dispose of by incineration. The resin is currently experiencing a rapid increase in demand from such industries as automotive manufacturers for vehicle interior parts.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0116

Polymers

Polymer powder

Suntec™ PAK coating powder

Asahi Kasei Corporation

Hibiya-Mitsui Building 1-2 Yurakucho 1-chome, Chiyoda-ku Tokyo 100-8440, Japan

Tel; 03-3507-2060 Fax; 03-3507-2495

E-mail;

URL; <http://www.asahi-kasei.co.jp/>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

This polymer coating powder is made of polyethylene. Use of this powder will eliminate 100% use of organic solvent and reduce atmospheric emission. This powder is used to coat pipes, fences, fan guards.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0117

Polymers

Purging agent

Asaclean™ purging agent for plastic molding machines

Asashi Kasei Corporation

Hibiya-Mitsui Building 1-2 Yurakucho 1-chome, Chiyoda-ku Tokyo 100-8440, Japan

Tel; 03-3507-2060 Fax; 03-3507-2495

E-mail;

URL; <http://www.asahi-kasei.co.jp/>

Category:

- A3. Hazardous Substance
- B3. Resource Saving
- B4. Higher Quality
- C2. Material and Components Production

This highly effective purging agent is used to clean plastic molding machines. Five available types of purging agents include standard type (U), type UP for solely PP like color change, type E for transparent resins, type EX for deposit removal, and type UE for extrusion. These agents can be operated at the range of temperature of 180 °C -360 °C . These agents could reduce about 74% of cleaning and operating cost compared to current method.



Asaclean™

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0118

Polymers

EA Toner

EA Toner with reduced CO₂ emission in manufacturing / working process

Fuji Xerox. Co., Ltd.

2-17-22 Akasaka, Minato-ku, Tokyo, 107-0052 Japan

Tel; 03-5573-2882 Fax; 03-5573-2883

E-mail; kazuo.Suzuki@fujixerox.co.jp

URL; <http://www.fujixerox.co.jp/>

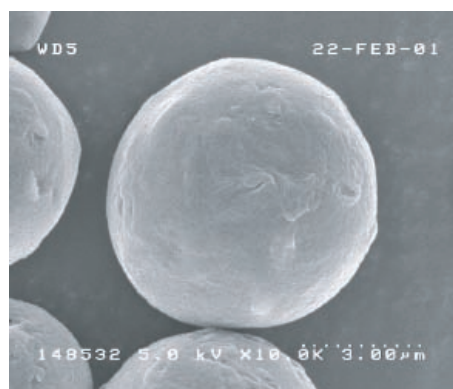
Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving

In contrast to conventional powder-based toners, EA toner is formed through a chemical process by mixing, coalescing and then heating pigment and latex particles in a solution. With this method, uniform particles with a size of 5.8 micrometers each (average particle diameter) are manufactured with reduced CO₂ emission in the manufacturing process, while achieving higher print quality.

The manufacturing process differs from ordinary powder-based toners in that the size of pigment and latex particles is increased rather than minimized, making it possible to cut CO₂ emissions by 35%. This allows the shape of the particles to be controlled with precision, thus enabling images to be more efficiently transferred to paper. The amount of toner used is also reduced by 37%.

As the toner is oil-free, it applies thinly and evenly. As a result, it is easier to annotate and use self-adhesive notes, while also improving the clarity of fine lines. In addition, photos and graphics appear much more natural because glossiness is reduced.



Eco-materials No.0119

Natural Materials

Magnesium Stearate

Energy-saving Magnesium stearate for resin/foods/cosmetics made from vegetable fat/oil

Shinagawa Chemical Industry Co., Ltd.

4058 Nakatsu Aiko-gun Kanagawa Pref. 243-0303 Japan

Tel; 046-285-0826 Fax; 046-285-1703

E-mail; info@shinagawa-chem.co.jp

URL; <http://www.shinagawa-chem.co.jp>

Category:

- A2. Air Pollution
- A4. Waste
- A5. Resource Consumption
- B5. Energy Saving
- C4. Product Manufacture

This Eco Magnesium Stearate based on vegetable oil reduces the environmental burden. It is energy-saving and waste-free and uses original manufacturing technology.



Products/Model :
Magnesium Stearate • SAK-MS

Eco-materials No.0120

Natural Materials

Zinc stearate

Energy-saving Zinc Stearate for resin/foods/cosmetics made from vegetable fat/oil

Shinagawa Chemical Industry Co., Ltd.

4058 Nakatsu Aiko-gun Kanagawa Pref. 243-0303 Japan

Tel; 046-285-0826 Fax; 046-285-1703

E-mail; info@shinagawa-chem.co.jp

URL; <http://www.shinagawa-chem.co.jp>

Category:

- A2. Air Pollution
- A4. Waste
- A5. Resource Consumption
- B5. Energy Saving
- C4. Product Manufacture

This Eco Zinc Stearate based on vegetable oil reduces the environmental burden. It is energy-saving and waste-free and uses original manufacturing technology.



Products/Model :
Zinc Stearate • SAK-ZS

Eco-materials No.0121

Natural Materials

Calcium stearate

Energy-saving calcium stearate for resin/foods/cosmetics made from vegetable fat/oil

Shinagawa Chemical Industry Co., Ltd.

4058 Nakatsu Aiko-gun Kanagawa Pref. 243-0303 Japan

Tel; 046-285-0826 Fax; 046-285-1703

E-mail; info@shinagawa-chem.co.jp

URL; <http://www.shinagawa-chem.co.jp>

Category:

- A2. Air Pollution
- A4. Waste
- A5. Resource Consumption
- B5. Energy Saving
- C4. Product Manufacture

Environmentally-friendly Eco Calcium Stearate is based on vegetable oil. It is energy-saving and waste-free and is made with original manufacturing technology.



Products/Model :
Calcium Stearate • SAK-CS

Eco-materials No.0122

Natural Materials

Plant vitalizer

Plant vitalizing liquid for agricultural use using natural materials

Showa Denko K.K.

13-9, Shiba Daimon 1-chome, Minato-ku, Tokyo, 105-8518 Japan

Tel; 044-329-0739 Fax; 044-329-0791

E-mail;

URL; <http://www.sdk.co.jp>

Category:

- A5. Resource Consumption
- B4. Higher Quality
- B7. Usage of Recycled Material
- C1. Material Extraction
- C5. Product Use, Maintenance and Repair

A solution of 7% chitosan (a naturally derived high polymer made from chitin, found in crab shells) dissolved in liquid organic acid to promote plant growth.

When sprayed onto stems and leaves of crops, this liquid vitalizes enzymes (such as chitinase) that the crops originally possessed, thereby strengthening their immunity to disease. As a result, it promotes growth by increasing sugar content).



Products/Model :
Chitosar

Eco-materials No.0123

Natural Materials

Material for Adhesive Label

Adhesive label made of plant-derived degradable plastic and self-adhesive

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B6. Environmental Purification
- C1. Material Extraction
- C3. Design and Material Selection
- C6. End-of-Life

“BIOLA” employed plant-derived biodegradable plastic film (polylactic acid)* as surface medium and newly developed plant-derived (natural rubber related) adhesive as sticker. It contributes to the conservation of exhaustible fossil fuel as it contains no petroleum. It reduces environmental burden after disposal due to the degradable adhesive film, fewer carbon dioxide emission and heat in use, and less risk of generating hazardous substances when it is incinerated.

*polylactic acid: it is obtained by polymerize poly-lactic acid that is the product of fermentation of starch extracted from corn or sweet corn.



Products/Model :

BIOLA:White(LM131K),Clear(LM171K)

Eco-materials No.0124

Natural Materials

Paper

Paper that uses wood comes from well-managed forests

MITSUBISHI PAPER MILLS LIMITED

Shin Nisseki Bldg. 3-4-2, Marunouchi, Chiyoda-ku, Tokyo

100-0005 Japan

Tel; 03-3213-3763 Fax; 03-3213-3818

E-mail; katsura_toru@mpm.co.jp

URL; <http://www.mpm.co.jp/>

Category:

- A1. Global Warming
- C1. Material Extraction

At least 30% of the wood fiber used in this product line comes from well-managed forests, independently certified in accordance with the rules of the Forest Stewardship Council. Those forests are certified to ensure they comply with sustainable practice and principles in terms of social, economic, and environmental aspects. Using this kind of paper leads to promote proper forest management.



Products/Model :

Peal coat FSC

Eco-materials No.0125

Natural Materials

Bio-plastic

Plastic for carbon-neutral vehicle using plant sources

Toyota Motor Corporation

1, Toyota-cho, Toyota-shi, Aichi, 471-8571

Tel; 0565-28-2121 Fax;

E-mail;

URL; <http://www.toyota.co.jp>

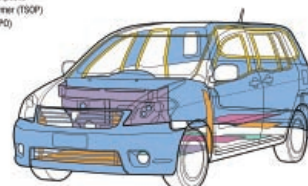
Category:

- A1. Global Warming
- A5. Resource Consumption
- B1. Recyclability
- B3. Resource Saving
- C6. End-of-Life

This plastic can be used as a vehicle component, by improving polylactic acid produced from phytomaterial such as sugar cane or maize. Thanks to its plant sources, it is said to be 'carbon neutral' and helps to conserve oil resources when compared with current resins, rendering CO₂ circulate even on incineration.

Use of Materials with Consideration to Recycling in the New Model

- RSP (Recycled Sound-Proofing Products)
- Recycled PP (Polypropylene)
- Toyota Eco-Plastic
- Polyethylene-oxylene composite
- Toyota Super Olefin Polymer (TSOP)
- Thermo Plastic Olefin (TPO)



Products/Model :

Toyota Eco Plastic

Eco-materials No.0126

Natural Materials

Surface-activating agent

Surface-activating agent with high biodegradability and little environmental influence

Showa Denko K.K.

13-9, Shiba Daimon 1-chome, Minato-ku, Tokyo, 105-8518 Japan

Tel; 044-329-0739 Fax; 044-329-0791

E-mail;

URL; <http://www.sdk.co.jp>

Category:

- A4. Waste
- B4. Higher Quality
- C1. Material Extraction
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

Surfactin sodium salt, known as a peptide biosurfactant produced by microorganisms. It has a high level of surface-activating performance and an extremely low level of stimulation effects for a surface activator, as well as strong emulsification capabilities.

In addition, since it shows high biodegradability, it has little environmental impact, making it suitable for cosmetics.



Products/Model :

Aminofect

Eco-materials No.0127

Natural Materials

Fiber

Paper yarn OJO: Biodegradable fiber for dresses and interior partitions

Oji Fiber Co., Ltd.

4-9-8 Ginza Chuo-ku Tokyo, 104-0061 Japan

Tel; 03-5565-9261 Fax; 03-3248-8022

E-mail; h-shiraishi@ojifiber.co.jp

URL; <http://www.ojifiber.co.jp>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- A4. Waste
- C1. Material Extraction
- C6. End-of-Life

Manila hemp from Ecuador, which is used in OJO paper yarn, grows rapidly given a hot climate and high humidity and can be harvested after around three years. It is low cost and has less environmental impact. It absorbs more CO₂ emissions, generates no hazardous substances even when burned and is biodegradable.



Eco-materials No.0128

Natural Materials

Simple Packing of Optical Fiber Cable

Eco-friendly simple packing of Optical Fiber Cable

Fujikura Ltd.

1-5-1 Kiba, Koto-ku, Tokyo 135-8512 Japan

Tel; 03-5606-1030 Fax; 03-5606-1502

E-mail; f-eco@fujikura.co.jp

URL; <http://www.fujikura.co.jp/>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- C1. Material Extraction
- C6. End-of-Life

In the past, Optical Fiber Cable was packed by means of nailing battens around a cable drum to protect it during transportation. However, once used, these battens turned into waste, so we looked at developing a simple packing method without the use of battens. As a result, we achieved a dramatic reduction in lumber consumption by simplifying packing for Optical Fiber Cable and other measures.



Past Packing

Simple Packing

Products/Model :

simple packing of for Cable

Eco-materials No.0129

Natural Materials

Planting bed

Eco-friendly unit-type planting bed for rooftop/wall surface

Hazama Corporation

2-5-8 Kita-Aoyama Minatoku Tokyo, 1078658 Japan

Tel; 03-3405-1124 Fax; 03-3405-1814

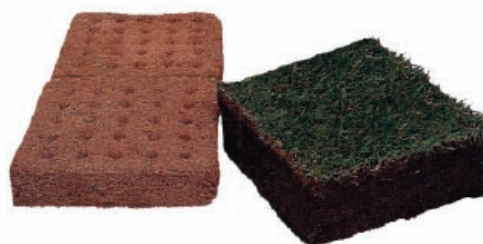
E-mail; info@hazama.co.jp

URL; <http://www.hazama.co.jp>

Category:

- A4. Waste
- B3. Resource Saving
- B5. Energy Saving
- B7. Usage of Recycled Material
- C5. Product Use, Maintenance and Repair

This palm mat unit-type planting bed uses recycled product from the organic waste of palmy shell, so it does not release toxic substances on disposal. This plays an important role in creating a recycling-oriented society. City environments can be improved with rooftop/wall surface replanting using the mat since it helps with heat island phenomenon, air purification and reduces rainwater flow. It can be used to improve landscapes and create novel space. Heat insulation performance of structures is improved through replanting of rooftops/wall surfaces, contributing to energy-saving. Wall surfaces replanted with palm mat also benefit from its sound insulation effect.



Eco-materials No.0130

Natural Materials

Cleaning cloth

Bemberg™ and Bemliese™ regenerated cellulose

Asahi Kasei Corporation

Hibiya-Mitsui Building 1-2 Yurakucho 1-chome, Chiyoda-ku Tokyo 100-8440, Japan

Tel; 03-3507-2060 Fax; 03-3507-2495

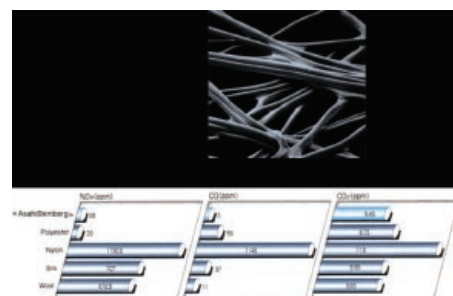
E-mail;

URL; <http://www.asahi-kasei.co.jp/>

Category:

- A5. Resource Consumption
- B4. Higher Quality
- B7. Usage of Recycled Material
- C6. End-of-Life

This cellulose fiber is produced from cotton linter. The material consists of three advantage properties including high liquid absorbance, super heat resistance, and minimal static electricity generation. The test result reported that this material could degrade about 80% in two months. Thus disposal of this material at the end of life would not cause any major negative impacts on the environment.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0131

Natural Materials

Ink

Environmentally conscious ink (Soy bean oil ink)

Dai Nippon Printing Co., Ltd.

1-1, Ichigaya Kagacho 1-chome Shinjuku-ku, Tokyo 162-8001, Japan

Tel; 03-5225-8480 Fax; 03-5225-8489

E-mail; info@mail.dnp.co.jp

URL; <http://www.dnp.co.jp/>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- C3. Design and Material Selection

Most printing inks contain petroleum solvents which are aromatic or infinite resources. Recent development of printing ink has shifted focus on renewable resource such as soybean oil ink. The use of renewable resource for ink would enable the conservation of non-renewable materials. In addition, this soybean oil ink is readily degradable.



Soybean oil ink

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0132

Natural Materials

Paper

Banana Paper

Banana Paper Project

Office Banana Project 710, 1-35, Hiroo 1-chome, Shibuya-ku, Tokyo 150-0012, Japan

Tel; 03-3400-4440 Fax; 03-3400-3456

E-mail; info@bananaproject.com

URL; <http://www.bananaproject.com/jp/top/index.html>

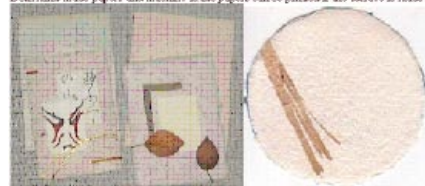
Category:

- A5. Resource Consumption
- B3. Resource Saving
- C1. Material Extraction
- C6. End-of-Life

Banana papers are made by the fibers which are plucked off from banana stems. No chemical is used during the pulp and paper making processes. This is the unique paper making method in the world. In Japan, the Association of SAITAMA KENAF is promoting this beautiful banana paper for folk-art. With the current technology and "KAMIZO" machine, about 30 kilograms of pulp can be made a day. In addition, 1 tone of banana waste could produce about 1,200 A4 size pages.



Both hand-made paper and machine-made paper can be recycled if this surface is made biodegradable.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0133

Natural Materials

Functional polylactic resin

Non-toluene functional polylactic resin for color printing ink, adhesives

Toyobo Co., Ltd.

2-8 Dojimahama 2-chome, Kita-ku, Osaka, 530-8230 Japan

Tel; 06-6348-3417 Fax; 06-6348-3393

E-mail; kankyo@ho.toyobo.co.jp

URL; <http://www.toyobo.co.jp>

Category:

- A5. Resource Consumption
- B6. Environmental Purification
- C1. Material Extraction
- C4. Product Manufacture
- C6. End-of-Life

Vyloecol® is a functional biodegradable resin with lactic acid as a main material. It has potential for aerobic resolution (composting treatment). Alkali solubilization treatment of anaerobic resolution (methane fermentation) is possible.



Products/Model :
Vyloecol®

Eco-materials No.0134

Natural Materials

Asphalt Agent

Asphalt Agents (emulsifiers & anti-stripping agents) that saves energy in asphaltting

Kao Corporation

1-3, Bunka 2-chome, Sumida-ku, Tokyo, 131-8501 Japan

Tel; 03-5630-7700 Fax; 03-5630-7889

E-mail; chemical@kao.co.jp

URL; <http://chemical.kao.co.jp/e/>

Category:

- A5. Resource Consumption
- B5. Energy Saving
- C6. End-of-Life

GRIPPER series is an anti-stripping agent with no solvent and is used as an additive for hot-mixed asphalt. The DIAMIN and FARMIN series are emulsifiers. GRIPPER enabled permeable pavement, enhancing durability and contributing to water resource preservation by allowing water to infiltrate asphalt pavement. DIAMIN and FARMIN allow asphalt to be laid at an ordinary temperature, unlike conventional technology which requires a high temperature for melting and flattening. Thus, they are effective in energy saving and enhanced workability. Both agents are made from natural fat and oil.

Products/Model :
DIAMIN RRT, R-86, FARMIN ST-7, GRIPPER 4131

Eco-materials No.0135

Foams

Expanded plastic adiabator

Freon-gas-free sophisticated phenolic foam construction insulation

ASAHI KASEI CONSTRUCTION MATERIALS CORPORATION

5-5, Shibadaimon 2-Chome, Minato-ku, Tokyo 105-0012, Japan

Tel; 03-5473-5321 Fax; 03-5473-5325

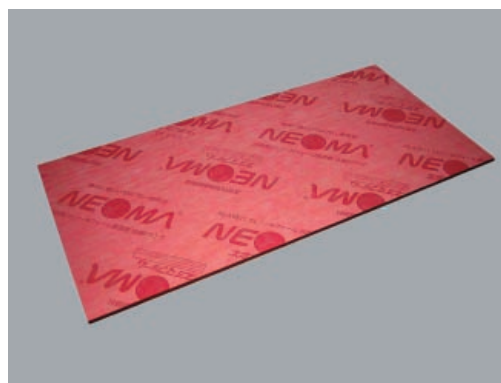
E-mail;

URL; <http://www.asahikasei-kenzai.com>

Category:

- A1. Global Warming
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The foaming technology was accomplished by the use of combustible hydrocarbon system gas securing the flame resistance of the product. Due to no use of Freon gas as a foaming gas at all, thus it contributes to prevention of destruction of ozone layer and global warming. Furthermore, we realized high heat insulation performance, which is well over that of the conventional products (by 1.5-2 times). It is the product with long-lasting adiabacity, significantly administering to high athermalize (energy-saving) of the structures.



Products/Model :
NEOMA™ FOAM

Eco-materials No.0136

Foams

Non-fluorocarbon coolant

Non-fluorocarbon coolant as a substitute for fluorocarbon

Showa Denko K.K.

13-9, Shiba Daimon 1-chome, Minato-ku, Tokyo, 105-8518 Japan

Tel; 03-5470-3752 Fax; 03-3437-6647

E-mail;

URL; <http://www.sdk.co.jp>

Category:

- A1. Global Warming
- B4. Higher Quality
- C2. Material and Components Production
- C3. Design and Material Selection
- C6. End-of-Life

Non-fluorocarbons (hydrocarbon) are becoming increasingly popular as coolants in place of alternative fluorocarbons (Hydro Fluoro Carbons), and are also being increasingly used as foaming agents in heat insulation. Isobutene is now used as a non-fluorocarbon coolant.



Eco-materials No.0137

Foams

Material for Reflector

Foamed sheet for reflector with high reflectance

The Furukawa Electric Co., Ltd.

6-1, Marunouchi 2-chome, Chiyoda-ku, Tokyo, 100-8322 Japan

Tel; 03-3286-3458 Fax; 03-3286-3472

E-mail; mr735221@mr.furukawa.co.jp

URL; <http://www.furukawa.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B5. Energy Saving
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

Furukawa Electric is the first in the world to succeed in the commercial-scale production and marketing of white sheets made of extra-fine foamed polyethylene tetra-phthalate (PET). Bubble diameter is so small that optical performance is outstanding, with a total reflectivity of 99% or more. It has a variety of applications such as reducing the number of fluorescent tubes used for advertisement lighting.



Products/Model :

High-Reflectivity Foamed Sheet • MCPET

Eco-materials No.0138

Foams

Insulation foam

Neoma™ foam

Asahi Kasei Corporation

Hibiya-Mitsui Building 1-2 Yurakucho 1-chome, Chiyoda-ku Tokyo 100-8440, Japan

Tel; 03-3507-2060 Fax; 03-3507-2495

E-mail;

URL; <http://www.asahi-kasei.co.jp/>

Category:

- A1. Global Warming
- A2. Air Pollution
- B4. Higher Quality
- C2. Material and Components Production

The Neoma™ is relatively high insulation performance phenolic foam. In addition, Neoma™ features outstanding flame resistance for safety aspect. During foam formation, no fluorocarbons, which cause ozone depletion and global warming, would be released to environment. Recent market survey indicated a strong and growing demand for this type of insulation materials in Japan.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0139

Foams

Packaging materials

Aspac Sarasara™ R

Asahi Kasei Corporation

Hibiya-Mitsui Building 1-2 Yurakucho 1-chome, Chiyoda-ku Tokyo 100-8440, Japan

Tel; 03-3507-2060 Fax; 03-3507-2495

E-mail;

URL; <http://www.asahi-kasei.co.jp/>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B7. Usage of Recycled Material
- C6. End-of-Life

This material is made of 100% recycled material. The material enables light weight and low bulk density to reduce environmental impacts at distribution stage of other products. It is proved to be resistant to vibration settling and static compression. The life cycle assessment of 1 kg of this foam indicated that total green house gases emission was 0.307 kg (CO₂ equivalent), energy consumption was 8.4 MJ/kg, acidification was 0.67g/kg of SO₂ equivalent, and ozone depletion potential was zero.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0140

Ceramics and Glass

Optical glass

Optical glass (eco-glass) for optical apparatus without harmful lead and arsenic

NIKON CORPORATION

Fuji Bldg., 2-3, Marunouchi 3-chome, Chiyoda-ku, Tokyo 100-8331 Japan

Tel; 03-3214-5311 Fax;

E-mail;

URL; <http://www.nikon.co.jp>

Category:

- A3. Hazardous Substance
- A4. Waste
- C2. Material and Components Production
- C3. Design and Material Selection
- C4. Product Manufacture

There are more than 100 types of optical glass and, in the past, NIKON used huge amounts of lead as a primary ingredient for about half of these optical glasses, while a small amount of arsenic was used in most types. However, we have now developed many types of optical glass without using these two elements, since they have the risk of damaging to the environment. In particular among most of ingredient used for optical glass, being referred to Ecoglass. We have secured optical performance solely with ecoglass for most optical apparatus through appropriate optical design.



Products/Model :
Optical Glass

Eco-materials No.0141

Ceramics and Glass

Glass Tubing

Lead-free Glass Tubing for Lighting

Nippon Electric Glass Co., Ltd.

7-1 Seiran, 2-chome, Otsu-shi, Shiga, 520-8639 Japan

Tel; 077-537-1700 Fax; 077-537-8639

E-mail;

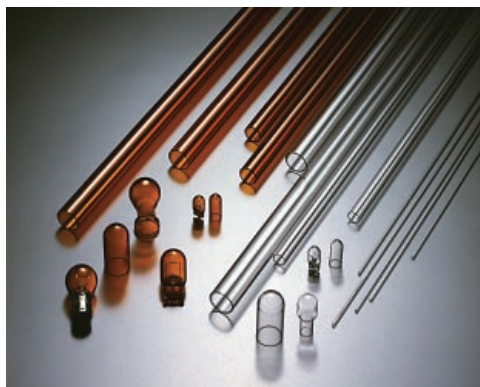
URL; <http://www.neg.co.jp>

Category:

- A3. Hazardous Substance
- B6. Environmental Purification
- C3. Design and Material Selection

Lead-free glass tubing which mimics the functions and features of glass produced with lead..

Especially the orange-colored glass is used for car turn-signal flashers, but contains no cadmium.



Products/Model :

Glass tubing for lighting

Eco-materials No.0142

Ceramics and Glass

Glass Powder

Lead-free Glass Powder for Low Temperature Cofired Ceramics

Nippon Electric Glass Co., Ltd.

7-1 Seiran, 2-chome, Otsu-shi, Shiga, 520-8639 Japan

Tel; 077-537-1700 Fax; 077-537-8639

E-mail;

URL; <http://www.neg.co.jp>

Category:

- A3. Hazardous Substance
- B6. Environmental Purification
- C3. Design and Material Selection

The product is a lead-free composite powder material that can be fired with a precious metal conductor and forms multilayer ceramic substrates.

Lead/borosilicate glass was traditionally used for the circuit, but has been replaced by lead-free glass.



Products/Model :

Lead free powder glass for low temperature cofired ceramics

Eco-materials No.0143

Ceramics and Glass

Glass

Barium-free glass substrate for PDP (plasma display panels)

Nippon Sheet Glass Co., Ltd.

2-1-7, Kaigan, Minato-ku, Tokyo, 105-8552 JAPAN

Tel; 03-5443-9500 Fax;

E-mail;

URL; <http://www.nsg.co.jp>

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- C3. Design and Material Selection
-
-

VINGT ET UN is a barium-free glass substrate for plasma display panels. Compared with existing materials on sale, it has many excellent properties such as lightweight and high electrical resistance. This means it is less easily broken and suffers less silver stain. Although Barium is a useful element with the required properties for PDP and melting behavior, its use is regulated by the Japanese Pollutant Release and Transfer Register. "VINGT ET UN" does not only satisfy the required properties, but is also environmentally friendly.



Products/Model :
VINGT ET UN

Eco-materials No.0144

Ceramics and Glass

Optical glass

Environment-friendly optical glass

Hoya Corporation

2-7-5, Nakaochiai, Shinjyuku-ku, Tokyo 161-8525

Tel; 03-3952-1162 Fax;

E-mail;

URL; <http://www.hoya.co.jp/japanese/index.cfm>

Category:

- A3. Hazardous Substance
- B1. Recyclability
- C6. End-of-Life

It is a lead/arsenic-free optical glass, being referred to as "E-glass." Lead is replaced with titanium and arsenic is left free or replaced with antimony. Even after taking it to users, it decreases environment burden of water and waste on the grinding / polishing stage as an "environment-friendly optical glass."



オブティクス事業部 長野工場
モールドオブティクス非球面レンズ

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0145

Ceramics and Glass

Silicone

Silicone for eco-friendly plastic

Shin-Etsu Chemical Co., Ltd.

2-6-1, Otemachi, Chiyoda-ku, Tokyo 100-0004, Japan

Tel; 03-3246-5091 Fax;

E-mail;

URL; <http://www.shinetsu.co.jp/j/index.shtml>

Category:

- A3. Hazardous Substance
- B1. Recyclability
- B4. Higher Quality
- C6. End-of-Life

Applying silicon to the property modification of resin has been promoted in different fields. "Eco-Polica" (co-manufactured by NEC Corporation and Sumitomo Dow Limited) is one of the typical applications of silicon to modify resin. In this case, silicon flame retardant was added to eco-friendly plastic used for a front cover of LCD monitor and PC body. "Eco-Polica" added with a new silicon flame retardant attained more flame retardency than conventional plastic added with toxic materials such as halogen (bromine) and phosphorous, and additionally, enhanced impact strength. Besides these advantages, material recycle is possible because "Eco-Polica" can be recovered and reused after use. Thus, it can be said that this is appropriate product from the perspective of promoting recycle-oriented society.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0146

Ceramics and Glass

Fire Retardant Additive

Fine-Mag and Echo-Mag using magnesium hydrate without halogen

AIR WATER INC.

20-16, Higashi-Shinsaibashi 1-chome, Chuo-ku, Osaka, 542-0083 Japan

Tel; 06-6252-5411 Fax; 06-6252-3965

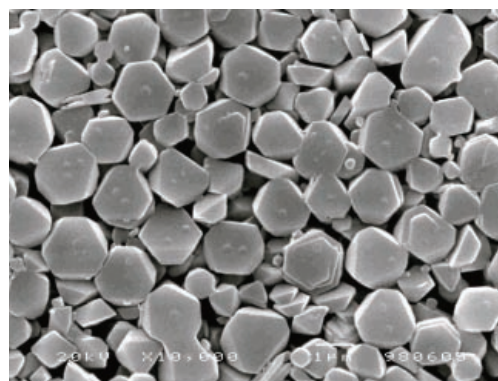
E-mail;

URL; <http://www.awi.co.jp/>

Category:

- A3. Hazardous Substance
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

These fire retardant additives provide magnesium hydrate with a unique catalytic effect and crystalline form. They don't generate dioxin and other toxic gases during combustion because they don't contain halogen compounds.



Products/Model :
FINEMAG® ECHOMAG®

Eco-materials No.0147

Ceramics and Glass

Etching gas

Dry etching gas to help prevent global warming

Showa Denko K.K.

13-9, Shiba Daimon 1-chome, Minato-ku, Tokyo, 105-8518 Japan

Tel; 044-329-0760 Fax; 044-329-0797

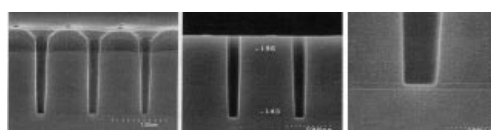
E-mail;

URL; <http://www.sdk.co.jp>

Category:

- A1. Global Warming
- B4. Higher Quality
- C3. Design and Material Selection
- C4. Product Manufacture
- C6. End-of-Life

Purified FC-2316 is a next-generation dry etching gas developed for use in the refining process for leading-edge ultrafine semiconductor devices, and its global-warming potential (GWP) is extremely low.



Eco-materials No.0148

Ceramics and Glass

"Weather Act" treatment

Corrosion resistant surface-coating for steel bridges etc

Sumitomo Metal Industries, Ltd.

1-8-11 Harumi chuo-ku, Tokyo, 104-6111 Japan

Tel; 03-4416-6111 Fax; 03-4416-6793

E-mail; chikyu-kan@sumitomometals.co.jp

URL; <http://www.sumitomometals.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B2. Longevity
- B3. Resource Saving
- C5. Product Use, Maintenance and Repair

Weather Act is a surface treatment technology that generates an early layer of rust with protective properties against atmospheric corrosion on the weather-resistant steel surfaces used in land-based steel structures. This technology contributes to minimization of maintenance by generating an early protective layer of rust that inhibits corrosion, loose scale and flaky rust. It improves halotolerance, resolving problems observed when weather-resistant steel is used exposing and expanding the usable range of weather-resistant steel.



Products/Model :

Weather-act Surface Treatment

Eco-materials No.0149

Ceramics and Glass

Solar cells

High-purity silicon for solar cells

JFE Holdings, Inc.

1-2, Marunouchi, 1-chome, Chiyoda-ku, Tokyo 100-0005, Japan

Tel; 03-3217-3912 Fax; 03-3214-9650

E-mail;

URL; <http://www.jfe-holdings.co.jp/environment/2003.html>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

We have developed the technology to mass-produce silicon from melted metal silicon through metallurgical refining process. The purity we can obtain is as high as 99.9999% or more. The conversion efficiency when it is processed into solar cells reaches 14 to 16%, which is the same level as the solar cells made of semiconductor-grade material.



solar cell module

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0150

Ceramics and Glass

Plug

Small-size long-reach iridium plug

NGK SPARK PLUG CO., LTD.

14-18, Takatsuji-cho, Mizuho-ku, Nagoya-shi, Aichi 467-8525, Japan

Tel; 052-872-5980 Fax; 052-872-5942

E-mail;

URL; <http://www.ngkntk.co.jp/menu.html>

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This is a small-size plug aiming size and weight reduction and cooling function improvement (high output) in an engine. By using this plug, engine performance improvement such as high output and anti-knock performance has realized. In addition, the designing margin for cylinder head increased.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0151

Ceramics and Glass

Sensor

Hydrogen leak sensor for fuel cells

NGK SPARK PLUG CO., LTD.

14-18, Takatsuji-cho, Mizuho-ku, Nagoya-shi, Aichi 467-8525, Japan

Tel; 052-872-5980 Fax; 052-872-5942

E-mail;

URL; <http://www.ngkntk.co.jp/menu.html>

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This is a hydrogen leak sensor for fuel cells. By using this sensor, safer operation of fuel cell system can be maintained. Because of functions of monitoring of hydrogen gas and quick response to low-concentration gas, a safe fuel cell design can be achieved. This sensor is expected to be widely used for fuel-cell vehicles and home fuel cells.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0152

Ceramics and Glass

Battery Electrolyte

Electrolyte for aluminum electrolytic condenser and electric double layer capacitor

Sanyo Chemical Industries, Ltd.

11-1, Nomoto-cho, Hitotsubashi, Higashiyama-ku, Kyoto-shi, Kyoto 605-0995, Japan

Tel; 075-541-4311 Fax; 075-551-2557

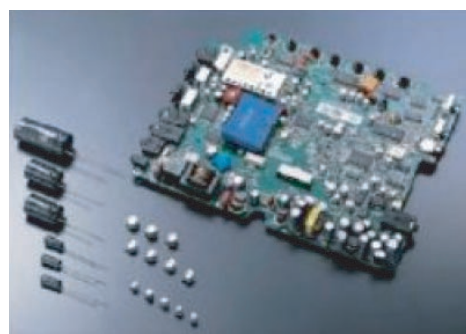
E-mail;

URL; <http://www.sanyo-chemical.co.jp/top/jpn/index.htm>

Category:

- A1. Global Warming
- B2. Longevity
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

Condenser is an essential component for electric and electronic devices, of which function is to cut down on noise as well as to store electricity and control electric current. Electrolyte for aluminum electrolytic condenser, "Sun Elecs Series" is much more conductive than conventional electrolyte and highly heat resistant, which allows to live long and exhibit high performance. "Power Elecs series" is the electric double layer capacitor that attracts attention as new storage element.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0153

Ceramics and Glass

Photocatalyst Coating Material

Folium, photocatalyst coating material applied at ambient temperature by itself

KAWASAKI HEAVY INDUSTRIES, LTD.

1-1 Kawasaki-Cho, Akashi City, 673-8666 Japan

Tel; 078-921-1612 Fax; 078-921-1615

E-mail; folium@ati.khi.co.jp

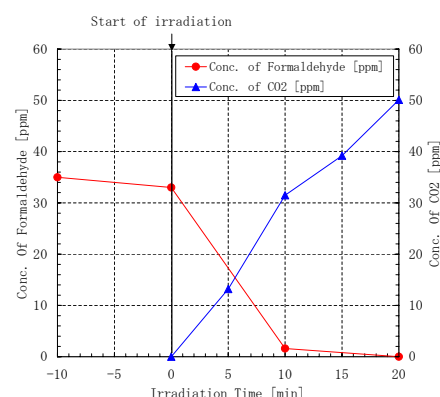
URL; <http://www.khi.co.jp/folium>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B5. Energy Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

Folium has three main functions. (i)Protection against stains (ii)Decomposition of bacteria and odor (iii)Decomposition of toxic components.

Folium starts to rapidly lower the formaldehyde concentration soon after ultraviolet irradiation, approaching close to zero in about 20 minutes.



Products/Model :
Folium KH-142

Eco-materials No.0154

Ceramics and Glass

Photocatalyst masterbatch

Resin master batch with titanium oxide photocatalyst

Showa Denko K.K.

13-9, Shiba Daimon 1-chome, Minato-ku, Tokyo, 105-8518 Japan

Tel; 044-329-0728 Fax; 044-329-0791

E-mail;

URL; <http://www.sdk.co.jp>

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- B6. Environmental Purification
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

Since titanium oxide can resolve organic substances when exposed to light, it is used for many purposes such as deodorization, dirt resolution, and sterilization.

This product, Nanoallomer, is a resin master batch, which contains a high density of the photocatalyst titanium. By adding nanoallomer to form the resin at the production process, resin products with a photocatalyst function can be produced. These products are used mainly for several resin products, films and construction components.



Products/Model :
Nanoallomer

Eco-materials No.0155

Ceramics and Glass

Filter

Particulate removal filter for diesel exhaust gas

NGK Insulators, Ltd.

2-56, Suda-cho, Mizuho-ku, Nagoya-shi, Aichi 467-8530, Japan

Tel; 052-872-7171 Fax;

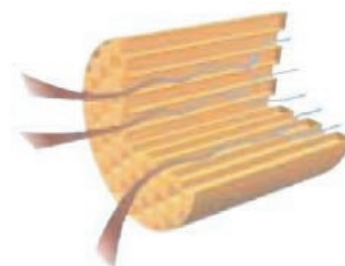
E-mail;

URL; <http://www.ngk.co.jp/>

Category:

- A2. Air Pollution
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

Diesel engine particulate filter is a filter to remove particulate matter contained in diesel exhaust gas. This filter is made of ceramics featuring one-side closing mechanism of honeycombs and filtering function in ceramics wall, thus realizing more than 90% particulate matter removal. The accumulated particle material is burnt so that the particulate collecting function of the filter can be maintained.



DPFの構造。粒子状物質を捕集させるため開口部の片側を交互に塞いでいる

※ Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0156

Ceramics and Glass

Zirconia powder

Functional materials and environmental protection Eco-friendly functional materials

Tosoh Corporation

3-8-2, Shiba, Minato-ku, Tokyo 105-8623, Japan

Tel; 03-5427-5170 Fax; 03-5427-5217

E-mail; zirconia@tosoh.co.jp

URL; <http://www.tosoh.com/zirconia>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B2. Longevity
- B4. Higher Quality
- B5. Energy Saving

Zirconia (YSZ) exhibits superior mechanical properties, such as high strength and flexibility. YSZ represents a technological breakthrough in surpassing the strength limitations of traditional fine ceramics. Oxygen-ion conductivity means that YSZ can be used in a wide range of eco-friendly products, such as solid oxide fuel, as well as oxygen and NOx sensors used in the automotive field.



Eco-materials No.0157

Ceramics and Glass

PM collecting filter

Ceramic filter for diesel engines with reduction of PM (particulate-matter) included in exhaust gas from car

DENSO CORPORATION

1-1, Showa-cho, Kariya, Aichi 448-8661 Japan

Tel; 0566-25-5733 Fax; 0566-25-4525

E-mail; kankyo@she.denso.co.jp

URL; <http://www.denso.co.jp>

Category:

- A2. Air Pollution
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

DPF is a ceramic filter to purify exhaust gas after efficient combustion through the common rail system of a diesel engine. The wall, with thousands of hollows of about 30μ in diameter, is painted with catalyst and PM (particulate-matter) collected on the exhaust gas passage pipe is burned and eliminated. The surface area with thousands of hollows formed by fine formation technology is Incomplete sentence.



Products/Model :
DPF

Eco-materials No.0158

Ceramics and Glass

Ceramic honeycomb carrier

“Cera-cat,” ceramic honeycomb carrier

Hitachi Metals, Ltd.

Shinjyuku park tower 3-7-1, Nishishinjyuku, Shinjyuku-ku, Tokyo 163-1015, Japan

Tel; 03-5381-6955-6958 Fax; 03-5381-6959

E-mail;

URL; <http://www.hitachi-metals.co.jp/>

Category:

- A1. Global Warming
- A2. Air Pollution
- B5. Energy Saving
- B6. Environmental Purification

This is a ceramic honeycomb carrier for the catalyst carrier for exhaust emission control or the heat reservoir for energy saving. It is a faveolate structure with a number of through-holes framed by thin-walls, the performance of which depends upon the cell structure and the material property. When it comes to the materials available at a high temperature, the notables are alumina (Al_2O_3), mullite ($3\text{Al}_2\text{O}_3 \cdot 2\text{SiO}_2$) and cordierite ($2\text{MgO} \cdot 2\text{Al}_2\text{O}_3 \cdot 5\text{SiO}_2$).



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0159

Ceramics and Glass

Ammonia

Chemically recycled Ammonia for industrial use

Showa Denko K.K.

13-9, Shiba Daimon 1-chome, Minato-ku, Tokyo, 105-8518 Japan

Tel; 044-329-0768 Fax; 044-329-0798

E-mail;

URL; <http://www.sdk.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B7. Usage of Recycled Material
- C1. Material Extraction
- C4. Product Manufacture

Waste plastic, such as plastic packages, is collected from homes and plants in and around Kawasaki City. These waste plastics are crushed, gasified, and modified into synthesis gas to produce ammonia.



Products/Model :
ECOANN

Eco-materials No.0160

Ceramics and Glass

Marine block

Marine block

JFE Holdings, Inc.

1-2, Marunouchi, 1-chome, Chiyoda-ku, Tokyo 100-0005, Japan

Tel; 03-3217-3912 Fax; 03-3214-9650

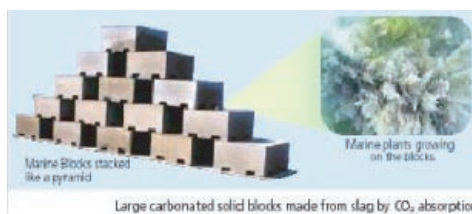
E-mail;

URL; <http://www.jfe-holdings.co.jp/environment/2003.html>

Category:

- A1. Global Warming
- A4. Waste
- A5. Resource Consumption
- C1. Material Extraction
- C6. End-of-Life

The slag which accounts for roughly 90% of iron manufacturing by-products is carbonic acid solidificated in large-scale by CO₂ absorbing technique in order to be better suited for seaweed bed and fish-breeding ground. The marine block serves an environmental improvement on a mass global scale.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0161

Ceramics and Glass

Cement

Blast furnace cement

Sumitomo Osaka Cement Co., Ltd.

6-28, Rokuban-cho, Choyoda-ku, Tokyo 102-8465, Japan

Tel; 03-5211-4505 Fax;

E-mail;

URL; <http://www.soc.co.jp/index.html>

Category:

- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C6. End-of-Life

We have been pursuing our procurement activities of materials that reduce environmental load. "Blast furnace cement" is a product made from blast furnace slag generated in iron and steel industry. This cement features environmental friendliness.



高炉セメント
(参考) 高炉スラグ30%以上使用

B、C種

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0162

Ceramics and Glass

Cement

Fly ash cement

Sumitomo Osaka Cement Co., Ltd.

6-28, Rokuban-cho, Choyoda-ku, Tokyo 102-8465 Japan

Tel; 03-5211-4505 Fax;

E-mail;

URL; <http://www.soc.co.jp/index.html>

Category:

- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C6. End-of-Life

We have been pursuing our procurement activities of materials that reduce environmental load. "Fly ash cement" is a product made from ash generated in thermal power plants. This cement features environmental friendliness.



フライアッシュセメント
(参考) フライアッシュ10%以上使用

B、C種

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0163

Ceramics and Glass

Green sand

“Green sand,” ferronickel slag

Sumitomo Metal Mining Co., Ltd.

Shinbashi Sumitomo building 5-11-3, Shinbashi, Minato-ku, Tokyo 105-8716

Tel; 03-3436-7701 Fax; 03-3436-7738

E-mail;

URL; <http://www.smm.co.jp/main.html>

Category:

- A5. Resource Consumption
- B3. Resource Saving
- B7. Usage of Recycled Material
- C1. Material Extraction

Ferronickel slag (trade name: “Green sand”) six times as many as the ferronickel itself is duplicated in the manufacturing process of ferronickel capable of being the raw material of stainless steel. This slag (vitreous gritty material with magnesium oxide and silica, which are duplicated in the smelting process, in major proportion) can be auxiliary materials for steel smelting, and otherwise, utilized as artificial aggregate in stead of natural river sand or sea sand, contributing to economization of the natural resources.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0164

Ceramics and Glass

Artificial zeolite

Eco-friendly Circulash for environmental, civil engineering and construction fields offering high performance of plus ion exchange, absorption/catalytic function

CHUBU ELECTRIC POWER CO., INC.

1 Toshi-cho, Higashi-ku, Nagoya 461-8680 Japan

Tel; 052-973-3617 Fax; 052-973-2187

E-mail;

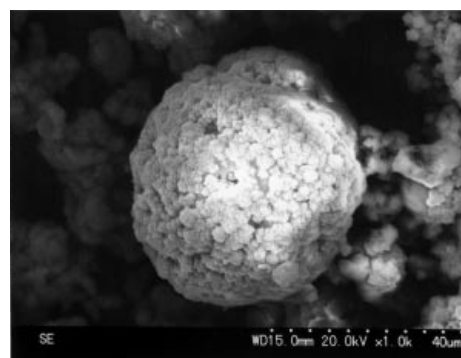
URL; <http://www.chuden.co.jp/otoiawase/index.html>

Category:

- A4. Waste
- B1. Recyclability
- B3. Resource Saving
- B6. Environmental Purification
- B7. Usage of Recycled Material

Around 8.8 million tons of coal ash is generated each year by coal combustion. (2001 figure).

While 80% of this is used efficiently as a raw material for cement, there is still wastage. Converting this into artificial zeolite is a new high value added use for coal ash. Artificial zeolite enjoys absorption effect for a variety of substances. It contributes towards environmental protection while making efficient use of coal ash.



Products/Model :
Circulash

Eco-materials No.0165

Ceramics and Glass

Artificial lightweight aggregate

Substitution of aggregate made from coal ash for natural aggregate

Kajima Corporation

2-7,Motoakasaka 1-chome,Minato-ku, Tokyo, 107-8388 Japan

Tel; 03-3404-3311 Fax; 03-3470-1444

E-mail;

URL; <http://www.kajima.co.jp/>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality
- C3. Design and Material Selection

Technologies to deal with coal ash discharged from thermal power plants are important. Jlite was developed as an artificial aggregate using shale powder, which melts at approximately 1100°C (requiring less energy) and coal ash, making use of the lightweight characteristic of the aggregate in concrete. As a result, the development of a concrete aggregate using coal ash in large quantity realized the expectation of manufacturing capability of the artificial aggregate on existing artificial lightweight aggregate manufacturing plant. Jlite was comparable to JIS A 5002 specifications on the artificial lightweight aggregate.



Products/Model :

Jlite

Eco-materials No.0166

Ceramics and glass

Roofing material

New “Colorbestos”

Kubota Corporation

1-2-47 Shikitsu-higashi, Naniwa-ku, Osaka 556-8601, Japan

Tel; 06-6648-2111 Fax; 06-6648-2444

E-mail;

URL; <http://www.kubota.co.jp/>

Category:

- A3. Hazardous Substance
- A4. Waste
- B1. Recyclability
- B2. Longevity
- C5. Product Use, Maintenance and Repair

This new “Colorbestos” is environmentally-friendly material, using Kubota’s unique “hyper-dry manufacturing method”. Use of this material enables to realize “zero asbestos”, “weather resistance improvement” and “coping with recycling”. The material can improve basic performances such as waterproof, windproof and aseismatic of roof. It also can enhance the design of house and building such as shape and various colors.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0167

Composites

Cleaner

Aqueous Cleaner for precision components with fewer effluent treatment burdens

Kao Corporation

1-3, Bunka 2-chome, Sumida-ku, Tokyo, 131-8501 Japan

Tel; 03-5630-7700 Fax; 03-5630-7889

E-mail; chemical@kao.co.jp

URL; <http://chemical.kao.co.jp/e/>

Category:

- A1. Global Warming
- B4. Higher Quality
- C4. Product Manufacture

The cleaning ability of "CLEANTHROUGH" surpasses that of solvents, even though it is water-based. Use of "CLEANTHROUGH" contributes to the improved function of electronics and other manufactured products. It has high detergency, yet has minimum negative effect on parts and materials. In addition, it can reduce the wastewater treatment burden that has been a problem with conventional aqueous cleaners, due to its low foaming and non-flammability.

Products/Model :

CLEANTHROUGH 50HS, LC-840

Eco-materials No.0168

Composites

Solder and Soldering apparatus

ECO-SOLDER for lead-free soldering

Senju Metal Industry Co., Ltd.

23 Senjuhasido-cho, Adachi-ku, Tokyo, 120-8555 Japan

Tel; 03-3888-5152 Fax; 03-3870-3032

E-mail; ykai@senju-m.co.jp

URL; <http://www.senju-m.co.jp/>

Category:

- A3. Hazardous Substance
- B1. Recyclability
- B4. Higher Quality
- B6. Environmental Purification
- C4. Product Manufacture

Basing upon the company's motto of "Supplying the best products with the most innovative technology", we are engaged in the research and the development on the lead-free solder in order to reduce the use of lead that is harmful to the environment of our globe. Our field covers the advanced solder and flux materials, the various soldering apparatus including a N2-reflow type oven for lead-free soldering, and the state-of-the-art technology on soldering. We propose "ECO SOLDERING SOLUTION" from a global point of view.



Products/Model :

ECO SOLDER Series For Lead-Free

Eco-materials No.0169

Composites

Marking Material

“LAG Mother Green”, large-sized sheet for digital-printing

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A2. Air Pollution
- B3. Resource Saving
- B6. Environmental Purification
- C3. Design and Material Selection
- C4. Product Manufacture

As a substitute material of the PVC film material that is the main material of sign/display business area, “LAG Mother Green” that is applicable to a large format printer is lined up. Moreover, the materials applicable to various soft-solvent ink-jet printers which suppress the use quantity of organic solvent are arranged.



Products/Model :

LAG (Lintec Advanced Graphics) Mother Green

Eco-materials No.0170

Composites

Complex stabiliser for PVC cable coating

Heavy-metal-free complex stabiliser for PVC coating of electric wire

Shinagawa Chemical Industry Co., Ltd.

4058 Nakatsu Aiko-gun Kanagawa Pref. 243-0303 Japan

Tel; 046-285-0826 Fax; 046-285-1703

E-mail; info@shinagawa-chem.co.jp

URL; <http://www.shinagawa-chem.co.jp>

Category:

- A3. Hazardous Substance
- A4. Waste
- C2. Material and Components Production
- C4. Product Manufacture
- C6. End-of-Life

This environmentally-friendly complex stabiliser for the PVC coating of electric wire offers the same-or better-performance as current products containing harmful heavy metals. It is based on vegetable oil metallic salt without using harmful metals (lead, cadmium).



Products/Model :

Stabiliser for PVC Wire and Cable • SCI-EZ

Eco-materials No.0171

Composites

Complex stabilizer for PVC joint

Heavy-metal-free complex stabilizer for PVC joint

Shinagawa Chemical Industry Co., Ltd.

4058 Nakatsu Aiko-gun Kanagawa Pref. 243-0303 Japan

Tel; 046-285-0826 Fax; 046-285-1703

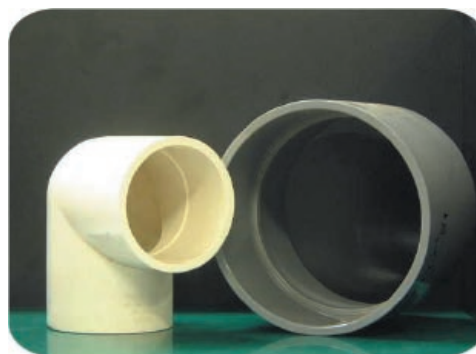
E-mail; info@shinagawa-chem.co.jp

URL; <http://www.shinagawa-chem.co.jp>

Category:

- A3. Hazardous Substance
- A4. Waste
- C4. Product Manufacture
- C2. Material and Components Production
- C6. End-of-Life

This environmentally-friendly complex stabiliser for PVC joint offers the same or better performance than current products that contain harmful heavy metals. It is based on vegetable oil metallic salt without using harmful metals (lead, cadmium).



Products/Model :
Stabiliser for PVC fitting • SCI-FTZ

Eco-materials No.0172

Composites

Complex stabilizer for PVC pipe

Heavy-metal-free complex stabilizer for PVC pipe

Shinagawa Chemical Industry Co., Ltd.

4058 Nakatsu Aiko-gun Kanagawa Pref. 243-0303 Japan

Tel; 046-285-0826 Fax; 046-285-1703

E-mail; info@shinagawa-chem.co.jp

URL; <http://www.shinagawa-chem.co.jp>

Category:

- A3. Hazardous Substance
- A4. Waste
- C2. Material and Components Production
- C4. Product Manufacture
- C6. End-of-Life

This environmentally-friendly complex stabiliser for PVC pipe offers the same or better performance than current products which contain harmful heavy metals. It is based on vegetable oil metallic salt without using harmful metals (lead, cadmium).



Products/Model :
Stabiliser for PVC pipe • SCI-PZ

Eco-materials No.0173

Composites

Complex stabilizer for PVC profile-extrusion

Heavy-metal-free complex stabilizer for PVC profile extrusion

Shinagawa Chemical Industry Co., Ltd.

4058 Nakatsu Aiko-gun Kanagawa Pref. 243-0303 Japan

Tel; 046-285-0826 Fax; 046-285-1703

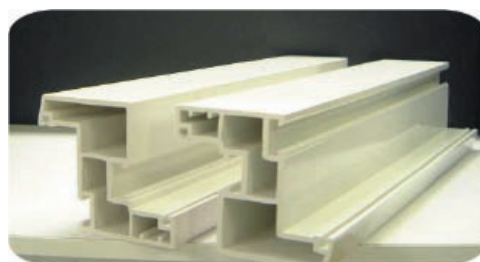
E-mail; info@shinagawa-chem.co.jp

URL; <http://www.shinagawa-chem.co.jp>

Category:

- A3. Hazardous Substance
- A4. Waste
- C2. Material and Components Production
- C4. Product Manufacture
- C6. End-of-Life

This environmentally-friendly complex stabiliser for PVC profile extrusion offers the same or better performance than current products which contain harmful heavy metals. It is based on vegetable oil metal salt without using harmful metals (lead, cadmium).



Products/Model :

Stabiliser for PVC profile • SCI-RZ

Eco-materials No.0174

Composites

High performance thermoplastic composite material

“Quick Form®” organic solvent-free high-performance thermoplastic composite materials

Toyobo Co., Ltd.

2-8 Dojimahama 2-chome, Kita-ku, Osaka, 530-8230 Japan

Tel; 06-6348-3417 Fax; 06-6348-3393

E-mail; kankyo@ho.toyobo.co.jp

URL; <http://www.toyobo.co.jp>

Category:

- A3. Hazardous Substance
- A4. Waste
- B4. Higher Quality
- B5. Energy Saving
- C6. End-of-Life

“Quick Form®” is high performance thermoplastic composite material made of continuous glass fiber and thermoplastic resin, produced by TOYOBO’s original impregnating process. Glass fibers are evenly distributed while their content is raised to an unprecedentedly high level by our unique manufacturing technology.

TOYOBO has been developing various kind of application taking the advantage of its high strength, modulus and impact resistance, putting importance on “safety”, “lightness” and “environmental friendly” as its keyword.



Products/Model :

QUICK Form®

Eco-materials No.0175

Composites

Printed Circuit Board (PCB) Materials

Halogen-free PCB Material suitable for lead-free soldering

Matsushita Electric Works, Ltd.

1048, Kadoma, Osaka 571-8686 Japan

Tel; 06-6909-8518 Fax; 06-6909-5827

E-mail;

URL; <http://www.mew.co.jp>

Category:

- A3. Hazardous Substance
- A4. Waste
- B4. Higher Quality

The material achieves flame-retardancy UL94V-0 without raising dioxin concerns during combustion. In addition, it does not contain antimony, which is regarded as a water pollutant. The material has excellent heat resistance, conduction reliability and offers the same performance as general FR-4. It also supports lead-free soldering and is used globally for digital home appliances and communication equipment applications.



Products/Model :

Laminate: R-1566, Prepreg : R-1551

Eco-materials No.0176

Composites

Encapsulant for semiconductor

Semiconductor encapsulant ECOM-E-series - bromine-free, antimony-free and lead-free

Matsushita Electric Works, Ltd.

1048, Kadoma, Osaka, 571-8686 Japan

Tel; 06-6909-8517 Fax; 06-6909-5827

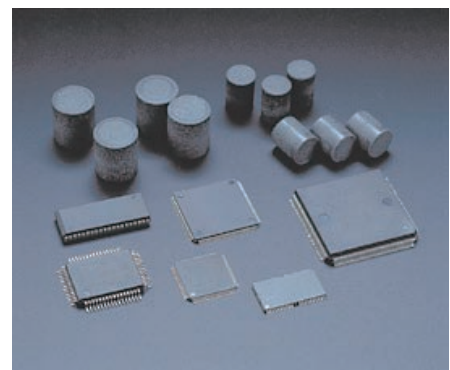
E-mail;

URL; <http://www.mew.co.jp>

Category:

- A3. Hazardous Substance
- A4. Waste
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

This encapsulant exhibits superior environmental features, reliability and is also anti-flammable. It does not contain bromine that generates dioxin at combustion or antimony which is to be monitored as a water pollutant. Since it features high performance in reflow tolerance and supports lead-free solder, this encapsulant is being used in IC and LSI.



Products/Model :

CV8210, CV8710, etc

Eco-materials No.0177

Composites

Rubber

Incorporated rubber (Material for improved tire performance)

The Yokohama Rubber Co., Ltd.

5-36-11, Shinbashi, Minato-ku, Tokyo 105-8685, Japan

Tel; 03-5400-4531 Fax;

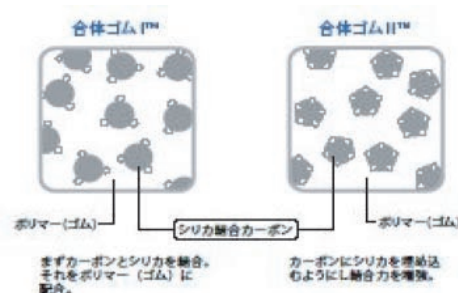
E-mail;

URL; <http://www.yrc-pressroom.jp/env/>

Category:

- A1. Global Warming
- B2. Longevity
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The rolling resistance can be decreased by blending silica to rubber reinforcement, however, silica is hard to evenly mingle with rubber, leaving a problem as to blending technique. Yokohama Gum has established a technology to blend what silica is mingled with carbon (reinforcement) in advance to rubber (patent taken), materializing compatibility of the conflicting performances of strong grip and fuel-efficient (Incorporated rubber 1). Furthermore, we designed the tire longevity and improvement of handling ability, heat quantity of rubber is increased due to downsizing of silica and carbon, improvement of grip, silica increase in weight, silica is bonded to carbon with higher binding force. (Incorporated rubber II)



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0178

Composites

Carbon compound material

Carbon compound material for separating fuel cell components

Showa Denko K.K.

13-9, Shiba Daimon 1-chome, Minato-ku, Tokyo, 105-8518 Japan

Tel; 0261-22-0185 Fax; 0261-22-6442

E-mail;

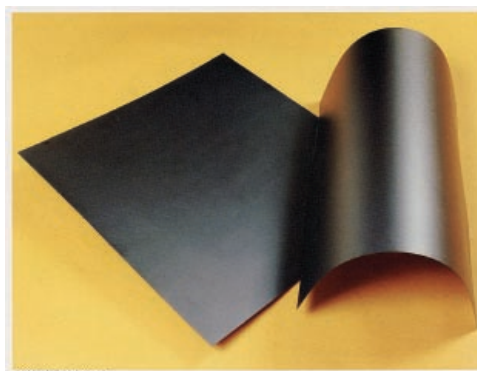
URL; <http://www.sdk.co.jp>

Category:

- A1. Global Warming
- A2. Air Pollution
- B5. Energy Saving
- C2. Material and Components Production
- C3. Design and Material Selection

SG carbon is a carbon compound material made from ultra thin carbon fibers, graphite dust, and glass carbon with our original manufacturing technologies. The product offers high air tightness as well as large package sizes and high strengths which are not available in existing glassy carbons.

Based on our past achievement in separating fuel cell components of phosphoric acid form, we are now working on fuel cell materials of solid high molecular form in order to expand our contribution to the field of fuel cells which can provide clean energy.



Products/Model :
SG carbon

Eco-materials No.0179

Composites

Natural fiber

Composite material incorporating zeolite within natural fiber

RENGO CO., LTD. CENTRAL LABORATORY

186-1, 4-Chome, Ohhiraki, Fukushima-ku, Osaka 553-0007, Japan

Tel; 06-6465-5067 Fax; 06-6465-0220

E-mail; lab@rengo.co.jp

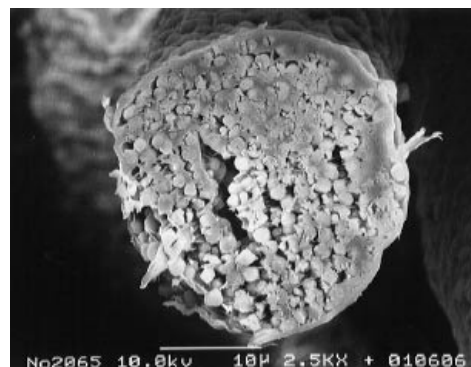
URL; <http://www.rengo.co.jp/index.htm>

Category:

- A2. Air Pollution
- A5. Resource Consumption
- B4. Higher Quality
- B6. Environmental Purification

“Cellgaia” is an excellent fiber made from plants and clay. Zeolite, a mineral which absorbs harmful gas or unpleasant odors, is artificially synthesized and settled in the pulp, which can be used as a raw material for paper. We are pushing ahead with research in different fields such as the creation of various filters to clean the air or purify drinking water since it has an antibacterial and fungicide effect and can render viruses inactive. The product has been already put to practical use as packaging material to protect electronic components, art objects and expensive kimonos from damage or discoloration.

- It uses natural resources
- It does not discharge harmful substances on manufacture or disposal
- Manufacturing does not involve major energy use



Products/Model :
Cellgaia

Eco-materials No.0180

Composites

Activated carbon for eliminating lead

Filtering material (activated carbon) for water purifier to eliminate soluble lead from lead pipes

Kuraray Chemical Co., Ltd.

4342 Tsurumi, Bizen-city, Okayama-pref, 705-0025 JAPAN

Tel; 0869-65-8331 Fax; 0869-65-8341

E-mail;

URL; <http://www.kuraray-c.co.jp>

Category:

- A3. Hazardous Substance
- B2. Longevity
- B4. Higher Quality
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

Although the regulation to limit soluble lead density to a maximum of 0.01mg/L has been enforced since 2003, lead water supply pipes are still widely used for residential houses, requiring the use of a water purifier. This product (which uses activated carbon to eliminate lead) has been developed as a filtering material for water purifiers. By combining lead eliminating materials and activated carbon, the product can eliminate offensive odors/toxic substances and lead substances.



Products/Model :
Kuraray Carbon APG

Eco-materials No.0181

Composites

Multilayer Board

Multilayer paperboard recycled from photographic paper support

MITUBISHI PAPER MILLS LIMITED

Shin Nisseki Bldg. 3-4-2, Marunouchi, Chiyoda-ku, Tokyo
100-0005 Japan

Tel; Fax;

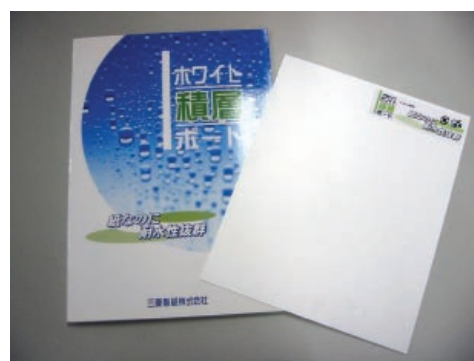
E-mail;

URL; <http://www.e-mpm.com/products/po/index.html>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C4. Product Manufacture

We reused sub-standard both-side laminated paper generated in the production process of photographic paper support of Mitsubishi Paper Mills Ltd. Those laminated papers are piled up and pressed on heating, and in the event converted to multilayer paperboard. It is applicable to material for different displays, signboards, and construction materials as the alternative for conventional plastic board. After use, it can be treated as paper, so it is environment friendly board in terms of today's waste treatment measures.



Products/Model :

MITUBISHI RECYCLE WATERPROOF PAPER BOARD

Eco-materials No.0182

Composites

Resin Pellet

Composite material of paper and resin for injection blow molding

MITUBISHI PAPER MILLS LIMITED

Shin Nisseki Bldg. 3-4-2, Marunouchi, Chiyoda-ku, Tokyo
100-0005 Japan

Tel; Fax;

E-mail;

URL; <http://www.e-mpm.com/products/po/index.html>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C4. Product Manufacture

This is paper/resin pellet for injection blow molding made by mixing and kneading shred of both-side laminated paper, which is generated in the production process of photographic paper support of Mitsubishi Paper Mills Ltd. It is applicable to all sorts of molding materials as alternative plastic. After use, it can be treated as paper, so it is environment friendly board in terms of today's waste countermeasures.



Products/Model :

MITUBISHI RECYCLE CELLULOSE PLASTIC COMPOSITE COMPOUND

Eco-materials No.0183

Composites

Synthetic pheromones

Environment-friendly synthetic pheromonal agent against agricultural pests

Shin-Etsu Chemical Co., Ltd.

6-1, Ohtemachi 2-chome, Chiyoda-ku, Tokyo, 100-0004 Japan

Tel; 03-3246-5091 Fax; 03-3246-5096

E-mail; sec-pr@shinetsu.jp

URL; <http://www.shinetsu.co.jp>

Category:

● A3. Hazardous Substance

This product is made from the same substance as that released from insects, having totally different preventive and exterminating effects on pests compared to conventional insecticides and agricultural chemicals. Since this product is ultra-low toxic and works against only specific insects, it has significantly low influence on such useful insects as natural enemies of the destructive insects. The product is biodegradable with quick speed under natural environment, of which resolving elements are only water and carbon dioxide, thereby posing little possibility to cause environmental contaminations.



Products/Model :

Synthetic pheromones

Eco-materials No.0184

Composites

Deinking Agent

Deinking Agent that facilitates the removal of ink from waste paper

Kao Corporation

1-3, Bunka 2-chome, Sumida-ku, Tokyo, 131-8501 Japan

Tel; 03-5630-7700 Fax; 03-5630-7889

E-mail; chemical@kao.co.jp

URL; <http://chemical.kao.co.jp/e/>

Category:

● A5. Resource Consumption

● B3. Resource Saving

● C6. End-of-Life

"DI-series" Deinking agents have been developed based on understanding surface chemistry and fatty oil chemistry. They allow wastepaper to be recycled to high quality deinking pulp. Kao has operations worldwide to help mills to select the best deinking chemistry for their grades of wastepaper. They improve not only the quality of deinking pulp, but also the quality of white water and enhance the reusability of water, which is vital to the pulp industry. In addition, use of the agents contributes to the preservation of forest resources as well as offering resource and energy savings in the paper manufacturing process.

Eco-materials No.0185

Composites

Wood alternative material

Interior material for housing made from wood refuse

Misawa Homes Co., Ltd.

2-4-5. Takaido Higashi, Suginami-ku, Tokyo, 168-8533 Japan

Tel; 03-3247-2104 Fax; 03-5370-7306

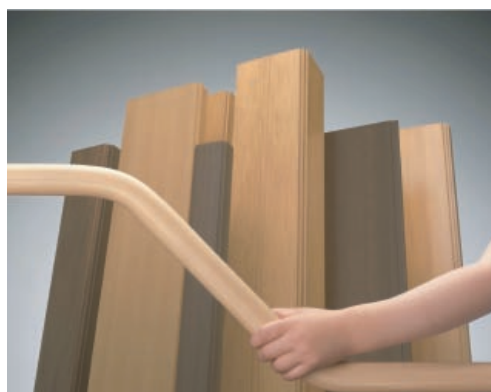
E-mail; kankyo@misawa.co.jp

URL; <http://www.misawa.co.jp/>

Category:

- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C4. Product Manufacture

M-Wood is a wood alternative. Offcuts are scraped into wood chip, blended with resin, pushed out and molded into shape. This innovative material is warpage/skew-free with a color and texture exactly like real wood. It is waterproof and has a flexible workability. It is suitable for interior use and can be used for window frames and stair rails. It can be recycled as wood chip, contributing to the conservation of the environment and a reduction in garbage.



Products/Model :
M-Wood

Eco-materials No.0186

Composites

Glued-laminated timber for pillar and beam

New timber made from architectural waste of woods for houses and buildings

Sekisui Chemical Co., Ltd.

Housing Company URBAN INFRASTRUCTURE & ENVIRONMENTAL PRODUCTS HEADQUARTERS

2-2, Kamichoshi-cho, Kamitoba, Minami-ku, Kyoto, 601-8105 Japan

Tel; 075-662-8525 Fax; 075-662-8585

E-mail; karukaya001@sekisui.jp

URL; <http://www.sekisui.co.jp/>

Category:

- A4. Waste
- B1. Recyclability
- C2. Material and Components Production

This product is a timber for pillars and beams made from architectural waste of woods. The current waste recycling rate is about 40%, which means that about 60% of the waste is burned or used for landfill. Using this timber could increase the recycling rate of architectural waste of woods.



Products/Model :
Rifare REW

Eco-materials No.0187

Composites

Sound absorbing board

Eco-friendly sound absorbing board for railways, roads, and outdoor equipment

Taisei Corporation

344-1 Nase-cho, Totsuka-ku, Yokohama, 245-0051 Japan

Tel; 045-814-7258 Fax; 045-814-7255

E-mail; koichi.nagase@sakura.taisei.co.jp

URL; <http://www.taisei.co.jp>

Category:

- B1. Recyclability
- B3. Resource Saving
- B5. Energy Saving
- B6. Environmental Purification
- B7. Usage of Recycled Material

Tepsam sound-absorbing board is made from crushed polystyrene foam. This is processed through 120°C heat treatment to create a light and rigid grained aggregate. Following this, blast furnace cement base (procured as green material) is coated on the aggregate. The board measures 750mm(W) × 500mm(L) × 35mm(D). As well as being used as a single plate, this board can be typically used as a set of four plates (750mm × 2000mm × 50mm) for railways or roads. In railway applications, the wheel rotating sound generated between wheel and rail or screech when passing a curb are effectively absorbed. Since this board contains cement, it has higher durability, fire-resistance, and water-resistance than rock-wool and resin sound-absorbing boards, which are conventionally used.



Products/Model :

Tepsam sound absorbing board

Eco-materials No.0188

Composites

Graphite materials

Carbofit

Hitachi Chemical Co., Ltd.

Shinjuku-Mitsui Building, 1-1, Nishi-Shinjuku 2-chome, Shinjuku-ku, Tokyo 163-0449, Japan

Tel; 03-5381-2214 Fax; 03-3346-3115

E-mail; csr@hitachi-chem.co.jp

URL; <http://www.hitachi-chem.co.jp>

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

Carbofit is an asbestos-free graphite material composed mainly of flexible graphite particles. It is produced by giving special chemical treatment to natural graphite. With this excellent heat resistance and sealing performance, CARBOFIT is broadly used in automotive engine gaskets and industrial packaging.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0189

Others

Interior Material

Ecokarat: interior material controlling humidity with forces of nature

INAX Corporation

5-1, Koiehonmachi, Tokoname, Aichi, 479-8585 Japan

Tel; Fax;

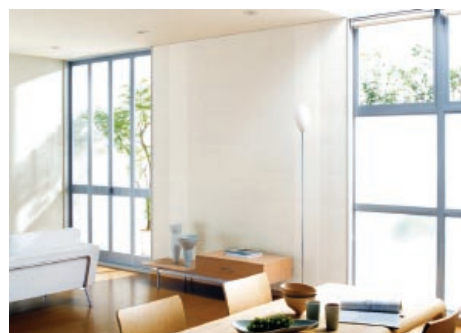
E-mail;

URL; <http://inax.co.jp/>

Category:

- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- B6. Environmental Purification
- B7. Usage of Recycled Material

“Ecokarat” automatically controls humidity of a room where it is used by absorbing moisture in the air when it gets humid and giving off moisture when it gets dry. It also has the function of absorbing VOC that would cause sick house syndrome, providing much better environment for our health. This is the first product approved as the construction material decreasing formaldehyde concentration in the domestic industry. In addition, we have reduced energy consumption and CO₂ emission with the low-temperature firing and recycled glass waste and other waste material.



Products/Model :
ECOKARAT, ECO-303/R etc

Eco-materials No.0190

Others

Pavement Block

Soil ceramics made of recyclable materials

INAX Corporation

5-1, Koiehonmachi, Tokoname, Aichi 479-8585 Japan

Tel; Fax;

E-mail;

URL; <http://inax.co.jp/>

Category:

- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- B6. Environmental Purification
- B7. Usage of Recycled Material

These are blocks that are made from quarrying abolishment clay and others. These blocks are symbiosis materials which can be recycled and return to the soil after the use. Moreover, more than 50% energy-saving for cement and 80% for ceramics at production are realized because of high-pressure steam curing process with no burning. These blocks contribute to energy-saving and low environmental load.



Products/Model :
SOIL CERAMICS, SOIL-300SB/12E etc

Eco-materials No.0191

Others

Lithium hexafluorophosphate

Electrolyte for lithium-ion secondary battery

Kanto Denka Kogyo Co., Ltd.

1-2-1 Marunouchi, Chiyoda-ku, Tokyo, 100-0005 JAPAN

Tel; 03-3216-4570 Fax; 03-3216-4581

E-mail;

URL; <http://www.kantodenka.co.jp>

Category:

- A2. Air Pollution
- A5. Resource Consumption
- B1. Recyclability
- B3. Resource Saving
- C5. Product Use, Maintenance and Repair

The product, which does not include environmentally-regulated substances, can be used in batteries of cell phones, notebook PCs, digital still cameras, video cameras, and other products. As electrolyte for lithium-ion secondary battery (battery constituent) which can be recharged, it promotes recycling of resources and power.



Products/Model :

LiPF₆

Eco-materials No.0192

Others

Eco-friendly Sealing material

SCF(Super Clean Foam), sophisticated sealing material for electronics with minimized environmental impact

NITTO DENKO CORPORATION

1-1-2, Shimohozumi, Ibaraki, Osaka 567-8680 Japan

Tel; 072-622-2981 Fax; 072-626-1505

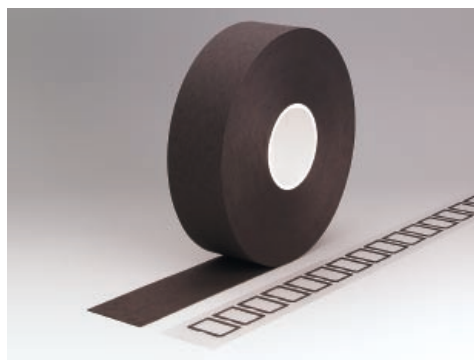
E-mail;

URL; <http://www.nitto.co.jp>

Category:

- A3. Hazardous Substance
- B6. Environmental Purification
- B7. Usage of Recycled Material
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

This is a halogen-free, phosphorous-free foam sealing material for electronics. Foam sealing material is what is put in the gap for dust-proof, impingement protection, vibration isolation. Previously, halogen group flame retardants were used where high flame resistance (UL94HF-1) is required. SCF offers high flame resistance (UL94HF-1) without the use of harmful substances and also uses thermoplastic resin of high purity. The bubble diameter is as short as 80 micrometer, providing a downsized/weight-saving approach.



Products/Model :

SCF(Super Clean Foam)

Eco-materials No.0193

Others

Raw Material for re-freezing oil

Eco-friendly raw material for re-freezing oil and for air conditioning refrigerant

Kyowa Hakko Chemical Co., LTD.

3-2-5, Nihonbashi-Muromachi, Chuo-ku, Tokyo, 103-0022 Japan

Tel; 03-3510-3561 Fax; 03-3510-3571

E-mail; makoto.gotou@kyowa.co.jp

URL; <http://www.kyowachemical.co.jp>

Category:

- A1. Waste
- B4. Higher Quality
- B5. Energy Saving
- C4. Product Manufacture
- C6. End-of-Life

Chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFC) have not been produced since 1995 and will not be used after 2020. Air conditioning equipment manufacturers are moving from conventional air conditioners to eco-friendly alternative-CFC (new refrigerant) air conditioning equipment, ahead of other industries. This organic acid is used for re-freezing oils and is compatible with the new refrigerant.



Products/Model :

Isononanoic acid

Eco-materials No.0194

Others

Chemical admixture for concrete

Chemical admixture for concrete "Cellucrete H" for preventing water contamination

Daicel Chemical Industries, Ltd.

JR Shinagawa East Bldg., 14F. 2-18-1, Konan, Minato-ku, Tokyo, 108-8230 Japan

Tel; 03-6711-8241 Fax; 03-6711-8248

E-mail;

URL; <http://www.daicel.co.jp/wsp/f-p-c.html>

Category:

- A3. Hazardous Substance
- B3. Resource Saving
- B4. Higher Quality
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

Provided that concrete is installed underwater in the same manner as above ground, ingredients segregate quickly. It is not merely that there is insufficient intensity, but animal life the creatures suffers due to water contamination around sites where strong alkali cement ingredients are segregated.

However, the mixture of Cellucrete H into concrete produces indissociable concrete even in water.

The cement ingredient does not disperse in this way, thus avoiding ambient water contamination.



Products/Model :

CELCREAT-H

Eco-materials No.0195

Others

Adsorbent

Read-F Fluorine and Arsenic Adsorbent

Asashi Kasei Corporation

Hibiya-Mitsui Building 1-2 Yurakucho 1-chome, Chiyoda-ku Tokyo 100-8440, Japan

Tel; 03-3507-2060 Fax; 03-3507-2495

E-mail;

URL; <http://www.asahi-kasei.co.jp/>

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

Read-F was produced by Shin Nihon Salt Company. This material could efficiently remove fluorine and arsenic from water by adsorption. The fluorine adsorption is applied in treatment of waste water from semiconductor production and thermal power generation. This material is now in use over 50 places for fluorine adsorption. Arsenic adsorption application, featuring extreme ease-of-use by simply passing water through a column filled with the adsorbent, is helping to protect health in Japan and overseas by removing arsenic from groundwater to produce safe drinking water.



Read-F adsorbent.

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-materials No.0196

Others

Alternative Fuel

SlurMix®:Eco-friendly, designed for and cement industry

AMITA CORPORATION

Shuwa Sanbancho Bldg., 28 Sanban-cho, Chiyoda-ku, Tokyo, 102-0075 Japan

Tel; 03-5215-8255 Fax; 03-5215-8256

E-mail; info@amita-net.co.jp

URL; <http://www.amita-net.co.jp/>

Category:

- A1. Global Warming
- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material

AMITA has developed an easy-to-handle auxiliary fuel called SlurMix for the cement and steel industry, made by compounding and homogenizing certain types of waste oils, oil-containing sludge and waste solvents, all by-products which previously could only be disposed through incineration. The residue remaining after combustion of SlurMix can be used as a raw material in manufacturing cement. SlurMix has about 4,500kcal/kg of calorific value so that it could be an alternative fuel of coal which leads reduction of green house gas emission and saving natural resources.

This means that SlurMix ultimately results in zero waste product-it realizes 100% recyclability.



Products/Model :
SlurMix®

Eco-materials No.0197

Others

High-octane gasoline

Environmentally-friendly high-octane gasoline for general users

Nippon Oil Corporation

3-12, Nishi Shimbashi 1-chome, Minato-ku, Tokyo 105-8412 Japan

Tel; 03-3502-9180 Fax; 03-3502-9367

E-mail;

URL; <http://www.eneos.co.jp/>

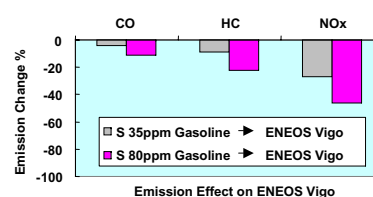
Category:

- A2. Air Pollution
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

- Since ENEOS Vigo is sulfur-free gasoline (10 ppm or less sulfur content), the emissions such as carbon monoxide, hydrocarbon, nitrogen oxide are reduced up to 10-20% of those of high sulfur gasoline (35~80 ppm sulfur content).

This means with ENEOS Vigo emission-purifying-catalyst is less likely to be deteriorated by sulfur.

- By adding a friction modifier, the gasoline consumption ratio and accelerating performance are improved by a maximum of 3% and 5% respectively compared with those of conventional high-octane gasoline without friction modifier.



Test Vehicle is the 1995 year model (2.5L, L6DOHC, 57,000km).
The emissions in the Japanese 10.15 mode were measured after a mileage accumulation equivalent to the 30-liter fuel consumption.

Products/Model :
ENEOS Vigo

Eco-materials No.0198

Others

Reverse Osmosis Membrane Module

Energy-saving Reverse Osmosis Membrane Module for ultrapure water

NITTO DENKO CORPORATION

1-1-2, Shimohozumi, Ibaraki, Osaka 567-8680 Japan

Tel; 072-622-2981 Fax; 072-626-1505

E-mail;

URL; <http://www.nitto.com>

Category:

- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

This Reverse Osmosis Membrane is used to produce ultrapure water from river water or groundwater for industrial use, drinking water and agricultural water. It eliminates impurities like salinity contained in water with hollow on the surface. The "ES series" can create clean water using around half of the energy required by current products. It was developed to produce ultrapure water vital to the manufacture of semiconductors. The membrane is 0.6 micrometer thick, with a number of surface ribs of 0.4 micrometer high which double the surface area. This allows the water to be produced with less pressure than was previously needed.



Products/Model :
ES-20 D8

Ecology Yupo: Recycled product, proper print and workability

Mitsubishi Chemical Corp.

33-8, Shiba 5-chome, Minato-ku, Tokyo 108-0017

Tel; 03-6414-3730 Fax; 03-6414-3745

E-mail; mcccpr@cc.m-kagaku.co.jp

URL; <http://www.m-kagaku.co.jp/index.htm>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material

A new product "Ecology Yupo" is a product recycled from spent synthetic paper, made from old paper of synthetic paper "Yupo." This product was developed as a new product, a thick type used for outdoor signboards, and has the same proper print performance and workability as conventional products. The new product comes from a recycling technology for old paper of Yupo generated and classified from printing companies and consists of 50% or more of recycled materials.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

2 Eco-components

- i Construction Components
- ii Electrical and Electronic Components
- iii Semiconductor Manufacturing Devices
- iv Machine Parts
- v Automobile Parts
- vi Packaging
- vii Others



Eco-components No.0001

Construction Components

Structure

Corrosion Resistant House Structure

Sekisui Chemical Co., Ltd. Housing Company

3-17 Toranomom 2-chome Minatoku, Tokyo, 105-8450 Japan

Tel; Fax;

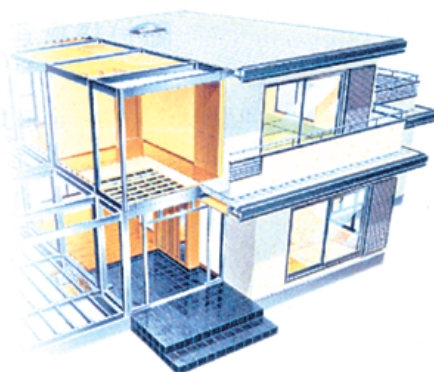
E-mail;

URL; <http://www.sekisuiheim.com>

Category:

- A1. Global Warming
- A4. Waste
- B2. Longevity
- C1. Material Extraction
- C5. Product Use, Maintenance and Repair

Zu-Al-Mg hot dipped steel materials ensure long-lasting house structures, offering two to three times higher corrosion resistance than conventional pure galvanized steel. This enhanced corrosion resistance can extend the life of houses and contributes to the reduction of environmental impact through energy conservation and resource saving.



Eco-components No.0002

Construction Components

Roofing Materials

Corrosion resistant House Roofing Materials

Sekisui Chemical Co., Ltd. Housing Company

3-17 Toranomom 2-chome Minatoku, Tokyo, 105-8450 Japan

Tel; Fax;

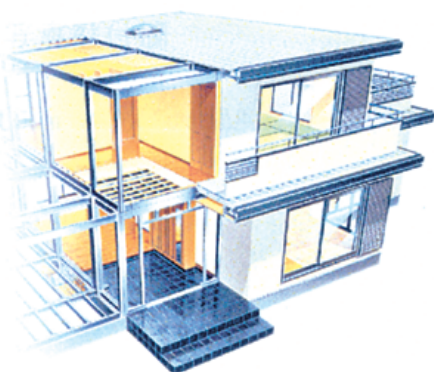
E-mail;

URL; <http://www.sekisuiheim.com>

Category:

- A1. Global Warming
- A4. Waste
- B2. Longevity
- C1. Material Extraction
- C5. Product Use, Maintenance and Repair

This roofing material, SUS445, has the highest corrosion resistance of stainless materials and so ensures long-lasting house roofs. This can extend the life of houses and contributes to a reduction of environmental impact thanks to energy conservation and resource savings.



Eco-components No.0003

Construction Components

Exterior Wall Materials

Weather resistant House Exterior Wall Material

Sekisui Chemical Co., Ltd. Housing Company

3-17 Toranomom 2-chome Minatoku, Tokyo, 105-8450 Japan

Tel; Fax;

E-mail;

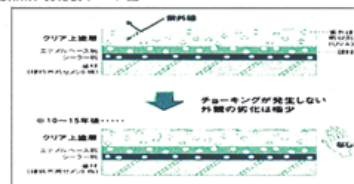
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Category:

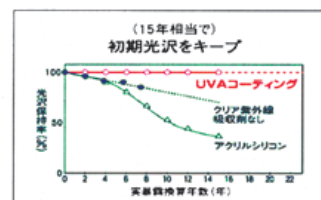
- A1. Global Warming
- A4. Waste
- B2. Longevity
- C1. Material Extraction
- C5. Product Use, Maintenance and Repair

A UV-absorbent clear finish coat provides a coated film for exterior walls. This prevents deterioration of the pigmented layer under the film and substantially improves its weather resistance. The new film needs repainted less frequency than conventional films, providing both energy and resource savings.

塗膜構成・劣化後イメージ図



耐熱性データ



Eco-components No.0004

Construction Components

Interior and exterior building materials

Alcelite : Interior/exterior building materials from reproduced aluminum/discarded glass

Obayashi Corporation, Technical Research Institute

640, Shimokiyoto 4-chome, Kiyoshe-shi, Tokyo, 204-8558 Japan

Tel; 0424-95-0970 Fax; 0424-95-0908

E-mail;

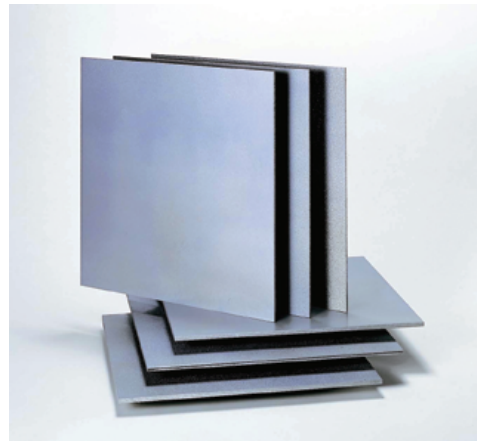
URL; <http://www.obayashi.co.jp/>

Category:

- A4. Waste
- B1. Recyclability
- B3. Resource Saving
- B7. Usage of Recycled Material
- C3. Design and Material Selection

Alcelite is an interior and exterior finishing material that uses a glass balloon as the primary material. It is made from reproduced aluminum and discarded glass.

Its raw materials include recycled products and, in addition, aluminum can be extracted through fusion by heating after use, allowing it to be re-used.



Products/Model :

ALCELITE • G type

Eco-components No.0005

Construction Components

Curtain

Temporary curtain absorbing and decomposing formaldehyde

Kumagai Gumi Co., Ltd.

2-1, Tsukudo-cho, Shinjuku-ku, Tokyo 162-8557, Japan

Tel; 03-3260-2111 Fax;

E-mail;

URL; <http://www.kumagaigumi.co.jp/main.html>

Category:

- A3. Hazardous Substance
- B6. Environmental Purification
- C6. End-of-Life

This is temporary curing curtain absorbing and decomposing formaldehyde, which is the main cause of "sick house syndrome" as a result of remarkable improvement in absorbing speed and capacity, just hanging it as a shade curtain in a room enabled to reduce formaldehyde concentration for a day to 1/2-1/3 of the initial concentration. In addition, this curtain can be disposed of as combustibles because the base material and the absorbent are made from paper and natural minerals, respectively, not generating any hazardous substances when it is incinerated.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0006

Construction Components

Building material

Woody building material for interior

Sankyo Aluminium Industry Co., Ltd.

70 Hayakawa, Takaoka-shi, Toyama 933-8610, Japan

Tel; 0766-20-2550 Fax;

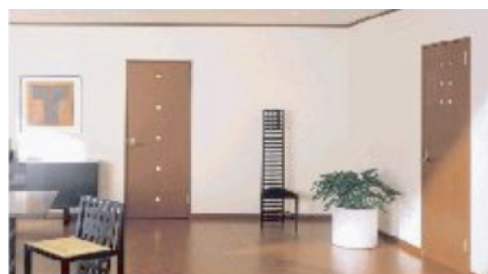
E-mail;

URL; <http://www.sankyoalumi.co.jp/>

Category:

- A3. Hazardous Substance
- B3. Resource Saving
- B7. Usage of Recycled Material

It is woody building material for interior with harmful substances decreased. The MDF (Medium Density Fiberboard) from thinned wood with low formaldehyde or the particleboard are used for the core or the backing. An environment-friendly resin face sheet is adopted for face panel.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0007

Construction Components

Sash

Aluminum-resin combined sash

Sankyo Aluminium Industry Co., Ltd.

70 Hayakawa, Takaoka-shi, Toyama 933-8610, Japan

Tel; 0766-20-2550 Fax;

E-mail;

URL; <http://www.sankyoalumi.co.jp/>

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

It is an aluminum-resin-combined sash, which has materialized superb adiabaticity, dew-retardation property and durability by the combination of aluminum on the outdoor side and resin on the indoor side. ABS resin is used, taking account of the environment.



アルジュR70：住宅用

※ Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0008

Construction Components

Foamed polystyrene

Styropor JFN: Substantial reduction of VOC, wide applications

Mitsubishi Chemical Corp.

33-8, Shiba 5-chome, Minato-ku, Tokyo 108-0016

Tel; 03-6414-3730 Fax; 03-6414-3745

E-mail; mccpr@cc.m-kagaku.co.jp

URL; <http://www.m-kagaku.co.jp/index.htm>

Category:

- A3. Hazardous Substance

Foamed polystyrene, molded foamed polystyrene bead, is widely used as building materials such as insulations and tatami mat cores. The product reduced its content of VOC such as xylene, ethylbenzene and styrene monomer causing sick house syndrome, by about 90%. JFN maintains the same excellent strength, heat conduction and workability as conventional products through an original resin design.



※ Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0009

Construction Components

FRP Form

FRP Form: Eco-friendly, more accurate finish

Nishimatsu Construction Co., Ltd.

1-20-10, Toranomon, Minato-ku, Tokyo 105-8401, Japan

Tel; 03-3502-0232 Fax;

E-mail;

URL; <http://www.nishimatsu.co.jp/eng/>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B4. Higher Quality
- C2. Material and Components Production

An FRP form is converted more often than a wood form (composite panel) and eco-friendly. In addition, good concrete can be placed due to that the form provides more accurate finish and that the semi-opaque form allows observation of concrete flow.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0010

Construction Components

Foamed concrete

“Siporex,” autoclaved lightweight concrete (ALC)

Sumitomo Metal Mining Co., Ltd.

Shinbashi Sumitomo building 5-11-3, Shinbashi, Minato-ku, Tokyo 105-8716

Tel; 03-3436-7701 Fax; 03-3436-7738

E-mail;

URL; <http://www.smm.co.jp/main.html>

Category:

- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving
- B7. Usage of Recycled Material
- C1. Material Extraction

The autoclaved lightweight concrete is a building material which excels in fire resistance, adiabaticity and workability. The primary components are silica, cement and quick lime.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0011

Construction Components

Solar cell

“Ecolony”

Kubota Corporation

1-2-47 Shikitsu-higashi, Naniwa-ku, Osaka 556-8601, Japan

Tel; 06-6648-2111 Fax; 06-6648-2444

E-mail;

URL; <http://www.m-kagaku.co.jp/index.htm>

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

“Ecolony” is a high-performance roofing material transforming solar power into electric power. Energy Payback Time, a period of time in which energy is recovered, of “Ecolony” is 2.1 years, one of the shortest periods in various kinds of photovoltaic power generation systems. In some housing complexes, “Ecolony” was used in all the houses. This creates environment- friendly towns or eco-towns. Use of this material enables the utilization of solar energy as a green energy source.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0012

Electrical and Electronic Components

IC Package

Environment-frienly IC package with high reliability & quality

SHINKO ELECTRIC INDUSTRIES CO., LTD.

80, OSHIMADA-MACHI, NAGANO-SHI, 381-2287 JAPAN

Tel; 026-283-1000 Fax; 026-284-8861

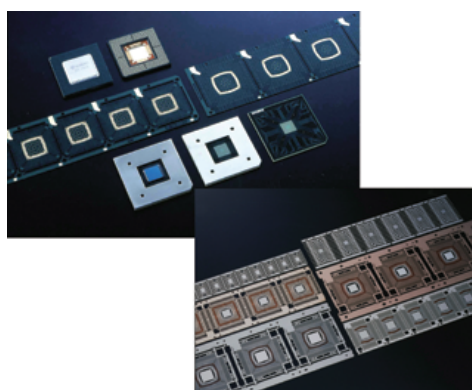
E-mail; sales_web@shinko.co.jp

URL; <http://www.shinko.co.jp>

Category:

- A1. Global Warming
- A4. Waste
- B4. Higher Quality
- B5. Energy Saving
- C4. Product Manufacture

As for IC package, there are some technical variations such as Leadframe(L/F), BGA and FC-XGA able to respond to the development of chips with higher density and smaller size, which use metal and organic materials, and CSP and WLP aimed at ultra small package. They are used in PC and portable terminal equipment. We contribute to decrease global environmental burden with the improvement of material design as well as energy saving measures in the production process of package and the reduction of waste materials. Specifically, we have taken measures to use more environment-friendly materials such as reducing the use of metal, resin, and lead solder with the trend of making thinner and smaller package and miniaturizing terminals in response to density growth, and introducing highly heat resistant materials using palladium Plating, lead-free and halogen-free.



Products/Model :
IC package

Eco-components No.0013

Electrical and Electronic Components

Hybrid IC

Hybrid IC for communication control with transmission to lead-free solder

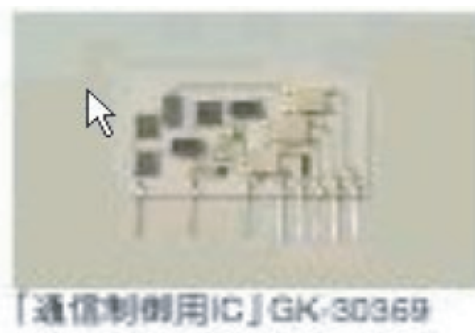
Fujitsu General Limited

1116, Suenaga, Takatsu-ku, Kawasaki-shi, Kanagawa
213-8502, Japan
Tel; 044-866-1111 Fax; 044-861-7860
E-mail;
URL; <http://www.fujitsugeneral.co.jp/>

Category:

● A3. Hazardous Substance

FUJITSU has newly developed a model with IC for communication control, which connects the indoor equipment and the outdoor equipment of such as air-conditioner, transmitted to lead-free solder. We are facing the changeover from lead solder to lead-free solder including the procurement of the corresponding member.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0014

Electrical and Electronic Components

Chip monolithic ceramic capacitor

Cyan/lead-free ultra small size chip monolithic ceramic capacitor

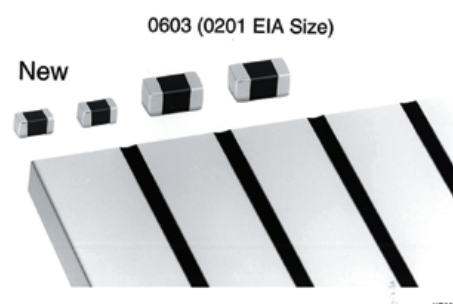
Murata Manufacturing Company Ltd.

26-10, Tenjin 2-chome, Nagaokakyo-shi Kyoto 617-8555 Japan
Tel; 075-955-6786 Fax; 075-958-2219
E-mail; env@murata.co.jp
URL; <http://www.murata.co.jp/>

Category:

● A3. Hazardous Substance
● A5. Resource Consumption
● B3. Resource Saving
● C3. Design and Material Selection
● C4. Product Manufacture

As the device size reduced and device functions diversify, the technology of high-density packaging and mounting are further required especially for mobile electronic devices. Under such circumstances, Murata, who has developed a capacitor with the 0603 size (0.6 mm X 0.3 mm), has continued studies on processing technologies with higher precision as well as on thinner lamination for dielectrics. As a result, Murata has successfully developed a chip monolithic ceramic capacitor with the 0402 size (0.4 mm X 0.2 mm).



Products/Model :
Chip Monolithic Ceramic Capacitors

Eco-components No.0015

Electrical and Electronic Components

Chip multilayer ceramic PTC thermistor

PTC thermistor with no organic solvent and small production energy

Murata Manufacturing Company Ltd.

26-10, Tenjin 2-chome, Nagaokakyo-shi, Kyoto 617-8555 Japan

Tel; 075-955-6786 Fax; 075-958-2219

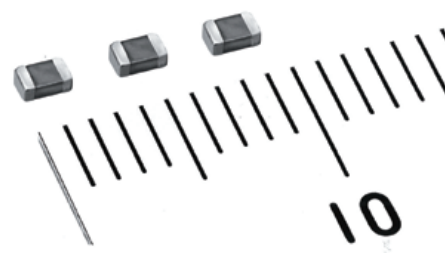
E-mail; env@murata.co.jp

URL; <http://www.murata.co.jp/>

Category:

- A3. Hazardous Substance
- A5. Resource Consumption
- B3. Resource Saving
- C3. Design and Material Selection
- C4. Product Manufacture

Murata has successfully developed ceramic PTC thermistor (POSISTER®) with chip multilayer structure for the first time in the world. With the developed technology, since September of 2003, Murata has started a mass production of PTC thermistor for excess electric current protection. As a product with capabilities with 0.2Ω of registance and 0.5 A of inactive current (sorrouding temperature is 50°C), Murata has realized the world smallest size, as small as the 2012 size (2.0mm × 1.25mm × 0.9mm). (POSISTER® is Murata's registered trademark)



Products/Model :

Chip Multilayer Ceramic PTC Thermistor

Eco-components No.0016

Electrical and Electronic Components

4mm square isolator

4mm square isolator

Hitachi Metals, Ltd.

Shinjyuku park tower 3-7-1, Nishishinjyuku, Shinjyuku-ku, Tokyo

163-1015, Japan

Tel; 03-5381-6955-6958 Fax; 03-5381-6959

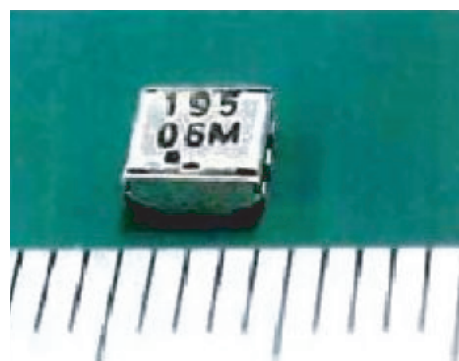
E-mail;

URL; <http://www.hitachi-metals.co.jp/>

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

It has been developed with an aim at W-CDMA of the global standard specifications, which is used for radio communication instrument such as cellular phone. Hitachi Metals, Ltd. has downsized the conventional product of 5mm square × 2mm into 4mm square × 1.7mm, roughly by 45% in volume. Based on high-precision resin case, high performance ferrite magnet and low loss garnet, optimum magnetic circuit design and low-loss high-dielectric substrate are adopted, keeping the performance as same as the conventinal one. Besides, the same power resistance performance as the conventional ones is materialized through Hitachi Metals' proprietary heat dissipation design. The weight is 0.11g, attaining the weight-saving by 45% compared to the conventional 2kg.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0017

Electrical and Electronic Components

Cushioning material

Non-polluting cushioning material

Hoya Corporation

2-7-5, Nakaochiai, Shinjyuku-ku, Tokyo 161-8525

Tel; 03-3952-1162 Fax;

E-mail;

URL; <http://www.hoya.co.jp/japanese/index.cfm>

Category:

- A3. Hazardous Substance
- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- C6. End-of-Life

HOYA Corp. has shifted the package cushioning material for large-sized mask from expanded polystyrene to non-polluting material from flour. We went through the impact test and transportation test, leading to 100% application as to the large-sized mask. The conventional disposable packaging materials have thus been decreased by 50%, allowing disposal of this new non-polluting cushioning material as a domestic waste by users.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0018

Electrical and Electronic Components

Transparent ceramics

Optical element without environmental influential substances by reducing production energy

Murata Manufacturing Company Ltd.

26-10, Tenjin 2-chome, Nagaokakyo-shi Kyoto 617-8555 Japan

Tel; 075-955-6786 Fax; 075-958-2219

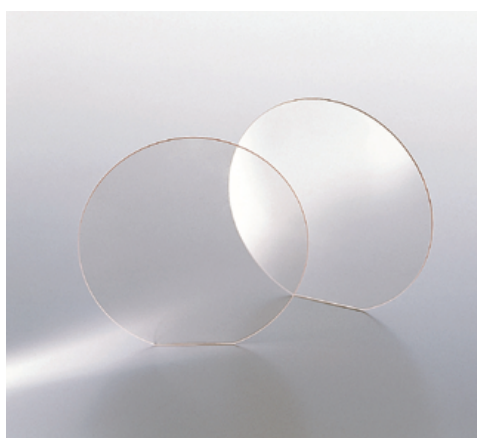
E-mail; env@murata.co.jp

URL; <http://www.murata.co.jp/>

Category:

- A3. Hazardous Substance
- A5. Resource Consumption
- B6. Environmental Purification
- C3. Design and Material Selection
- C4. Product Manufacture

Glass with excellent optical performance usually includes lead. Murata, with its own technologies (such as firing technology, processing technology, and material designing technology) accumulated through ceramics, has successfully developed lead-free transparent ceramics. The ceramics have as high transmittance as optical glass, higher refractive index (2.08) than optical glass, and excellent optical characteristics with no double refraction, thus attracting high expectation as a new material of optical element for which further downsizing and thinner lamination are required.



Products/Model :
Transparent Ceramics

Eco-components No.0019

Electrical and Electronic Components

Signal Relay

“Miniature Signal Relay E-series”, the products designed by LCA

NEC TOKIN Corporation

7-1 Koriyama 6-Chome, Taihaku-ku, Sendai, Miyagi 982-8510 Japan

Tel; 022-308-0014 Fax; 022-308-1155

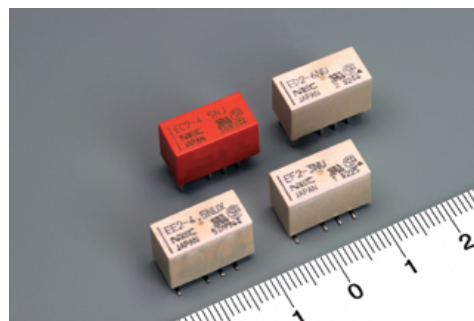
E-mail;

URL; <http://www.nec-tokin.com/>

Category:

- A3. Hazardous Substance
- B3. Resource Saving
- B4. Higher Quality
- C3. Design and Material Selection
- C6. End-of-Life

Basing upon the results of the Life Cycle Assessment (LCA) that we have conducted, we are targeting on the development of the Pb-free, Sb-free and halogen-free products. Lead (Pb) is a component of solder and antimony (Sb) and halogen are components of flame-retardant. By using replacing these materials, the production of lead-free products was achieved. The contents of antimony and halogen were also reduced by more than 30% in comparison with our company's previous products.



Products/Model :

Miniature Signal Relay EC2,ED2,EE2,EF2 Series

Eco-components No.0020

Electrical and Electronic Components

Signal Relay

“Miniature Signal-Relay”, designed for protection of the environment.

NEC TOKIN Corporation

7-1 Koriyama 6-chome, Taihaku-ku, Sendai, Miyagi, 982-8510 Japan

Tel; 022-308-0014 Fax; 022-308-1155

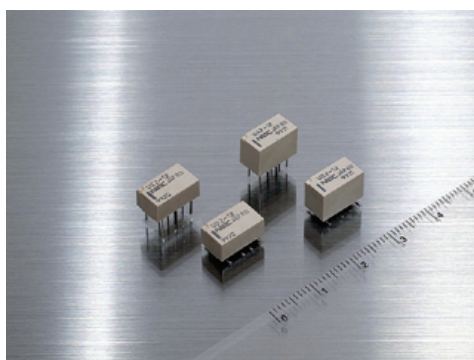
E-mail;

URL; <http://www.nec-tokin.com/>

Category:

- A3. Hazardous Substance
- B3. Resource Saving
- B4. Higher Quality
- C3. Design and Material Selection
- C6. End-of-Life

Miniature Signal-Relay (Model:UA2,UB2,UC2,UD2) is the product that was developed by means of the Life Cycle Assessment (LCA). The elimination of lead that comes from solder and at that of antimony and halogen that come from the flame retardant has been achieved. These are harmful elements to the environment.



Products/Model :

Miniature Signal Relay UA2,UB2,UC2,UD2 Series

Eco-components No.0021

Electrical and Electronic Components

Power Relay

“Miniature Power-Relay”, designed for the protection of the environment.

NEC TOKIN Corporation

7-1 Koriyama 6-chome, Taihaku-ku, Sendai, Miyagi, 982-8510 Japan

Tel; 022-308-0014 Fax; 022-308-1155

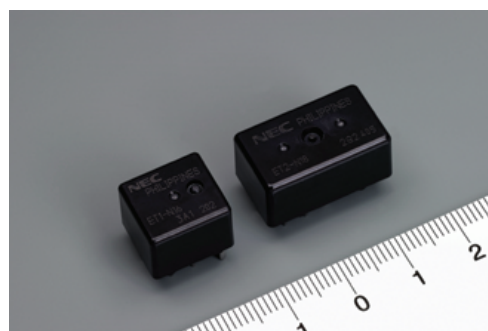
E-mail;

URL; <http://www.nec-tokin.com/>

Category:

- A3. Hazardous Substance
- B3. Resource Saving
- B4. Higher Quality
- C3. Design and Material Selection
- C6. End-of-Life

Miniature Power Relay (Model: ET1, ET2) is the product that was developed by means of the Life Cycle Assessment (LCA). The environmental load of the product was evaluated according to the method of the LCA. The elimination of lead and cadmium has been achieved. These are harmful elements to the environment.



Products/Model :

Miniature Power Relay ET1, ET2 Series

Eco-components No.0022

Electrical and Electronic Components

Power Relay

“Miniature Power Relay”, used for the electronic device of automobile.

NEC TOKIN Corporation

7-1 Koriyama 6-chome, Taihaku-ku, Sendai, Miyagi, 982-8510 Japan

Tel; 022-308-0014 Fax; 022-308-1155

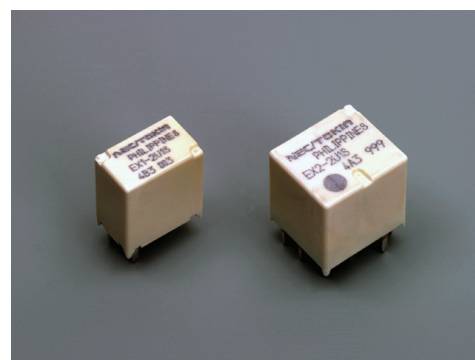
E-mail;

URL; <http://www.nec-tokin.com/>

Category:

- A3. Hazardous Substance
- B3. Resource Saving
- B4. Higher Quality
- C3. Design and Material Selection
- C6. End-of-Life

As a result of using a recycled plastic of higher flame-retardant grade, the elimination of antimony and halogen has been achieved with a lower consumption of oil resources. The elimination of cadmium and lead was already achieved. Twenty five percent of the volume and 15% of the weight was reduced in comparison with the values of the previous product of our company.



Products/Model :

Miniature Power Relay EX1, EX2 Series

Eco-components No.0023

Electrical and Electronic Components

Tantalum Condenser

“Tantalum Chip Capacitors”, lead-free electric condenser.

NEC TOKIN Corporation

7-1 Koriyama 6-chome, Taihaku-ku, Sendai, Miyagi, 982-8510 Japan

Tel; 022-308-0014 Fax; 022-308-1155

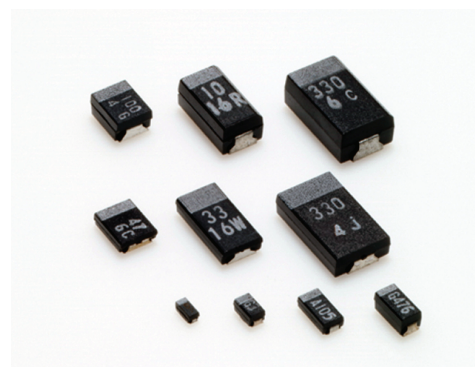
E-mail;

URL; <http://www.nec-tokin.com/>

Category:

- A3. Hazardous Substance
- B3. Resource Saving
- B4. Higher Quality
- C3. Design and Material Selection
- C6. End-of-Life

Tantalum condenser is the condenser that contains a film of tantalum oxide as dielectric material, and has the excellent feature of small-size, large-capacity and long-life. But, in the previous production method, the terminal part was soldered with a lead-solder that is not good to the environment. “Tantalum Chip Capacitor (E/SV-series product)” is made by using lead-free solder; hence it can reduce the environmental load due to condenser.



Products/Model :

Tantalum Chip Capacitors E/SV Series

Eco-components No.0024

Electrical and Electronic Components

Tantalum Condenser

“Neo Capacitor”, lead-free electric condenser.

NEC TOKIN Corporation

7-1 Koriyama 6-chome, Taihaku-ku, Sendai, Miyagi, 982-8510 Japan

Tel; 022-308-0014 E-mail; 022-308-1155

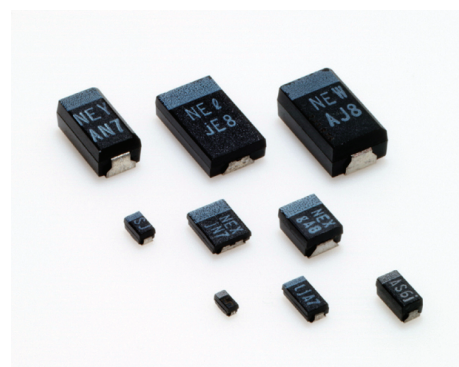
E-mail;

URL; <http://www.nec-tokin.com/>

Category:

- A3. Hazardous Substance
- B3. Resource Saving
- B4. Higher Quality
- C3. Design and Material Selection
- C6. End-of-Life

“Neo Capacitor” is a condenser in which a high-conductive polymer is used as dielectrics. “Neo Capacitor (PS/L, PS/G)” is made by using lead-free solder; hence it can reduce the environmental load due to condenser.



Products/Model :

NeoCapacitorTM PS/L,PS/G Series

Eco-components No.0025

Electrical and Electronic Components

Electric double layer Capacitor

“SUPER CAPACITOR”, for the protection of the environment

NEC TOKIN Corporation

7-1 Koriyama 6-chome, Taihaku-ku, Sendai, Miyagi, 982-8510 Japan

Tel; 022-308-0014 Fax; 022-308-1155

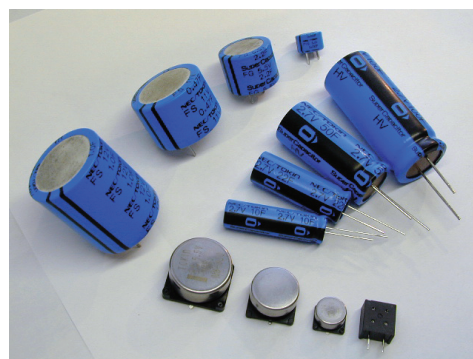
E-mail;

URL; <http://www.nec-tokin.com/>

Category:

- A4. Waste
- B3. Resource Saving
- C3. Design and Material Selection

“SUPER CAPACITOR” is an electric double layer capacitor. It is unnecessary to be exchanged like a battery, because the life owing to the cycle of charge and discharge is not restricted in principle. It may therefore realize the easy maintenance of the electric power source of apparatus. By not using PVC and flame retardant containing bromide and chloride, “halogen-free” has been achieved. It does not also involve environment load substances such as lead, cadmium, etc and so there is no influence to the environment in the disposal.



Products/Model :
Super Capacitor

Eco-components No.0026

Electrical and Electronic Components

Noise suppression Sheet

“BUSTERAID HF2”, halogen-free noise suppression sheet.

NEC TOKIN Corporation

7-1 Koriyama 6-chome, Taihaku-ku, Sendai, Miyagi, 982-8510 Japan

Tel; 022-308-0014 Fax; 022-308-1155

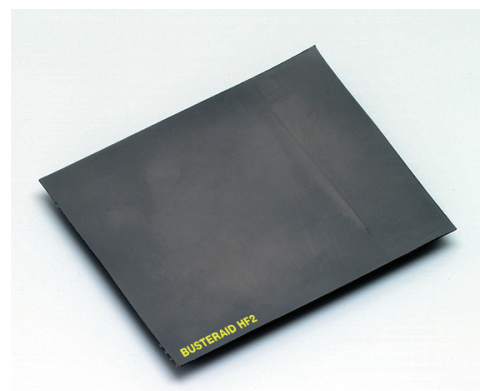
E-mail;

URL; <http://www.nec-tokin.com/>

Category:

- A3. Hazardous Substance
- B3. Resource Saving
- B5. Energy Saving
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

“BUSTERAID HF2” is a noise suppression sheet that can solve the problem due to heat and that due to electromagnetic interference simultaneously. The sheet is usable at the temperature up to 400 K. The sheet is halogen-free and consists of the resin not containing chlorine and the flame-retardant not containing bromine. Flame resistance of the sheet is equivalent to UL94-VO. For the electronic equipment to which “BUSTERAID HF2” is attached, the suppression of the increase in power consumption can be expected, as well as the prevention of the incorrect action owing to noise. It is therefore useful for designing of an energy-saving type apparatus. Furthermore, “BUSTERAID HF2” does not contain the substances that destroy the ozone layer and also RoHS substances such as lead, cadmium, etc.



Products/Model :
Flex-Suppressor Type HF2

Eco-components No.0027

Electrical and Electronic Components

LCD monitor

LCD monitor with parts count and weight decreased

Eizo Nanao Corporation

153, Kashiwano, Matsutou, Ishikawa 924-8566, Japan

Tel; 076-275-4121 Fax; 076-275-4125

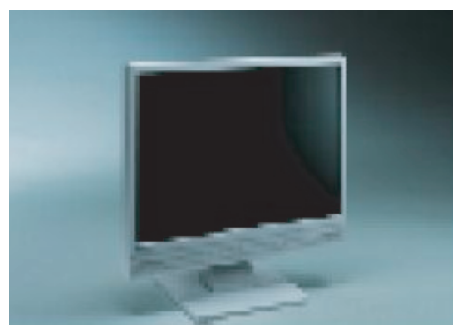
E-mail;

URL; <http://www.eizo-nanao.com/>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality

NANAO Corp. has implemented new structural development in order to decrease parts count and weight in the LCD monitor. Following the study on the structure with a view to decreasing parts count or weight in regard to the conventional models, we have succeeded in decreasing the parts count and the product weight of L367, the LCD monitor of 15 type, by 20% and 15%, respectively. Furthermore, the structure is applied for the ensuing development.



L367

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0028

Electrical and Electronic Components

Optical module

Remote control receiving optical module of low consumption type

Rohm Co., Ltd.

21, Seiin Mizosaki-cho, Ukyou-ku, Kyoto 615-8585, Japan

Tel; 075-311-2121 Fax; 075-315-0172

E-mail;

URL; <http://www.rohm.co.jp/index-j.html>

Category:

- A1. Global Warming
- B5. Energy Saving
- C6. End-of-Life

The light-receiving module must be constantly supplied through with power, so as to turn on the power by pushing a switch on the remote control. The remote control receiving optical module in question is realizing low voltage operation from 2.7V, on top of which the industry's topside low-power-consumption as low as 300μA, one fifth of the conventional models. The remote control receiving optical module is mounted on every household apparatus and what is crucial is that it should be low power consumption.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0029

Electrical and Electronic Components

Thermal head

Thermal head for mobile printer

Rohm Co., Ltd.

21, Seiin Mizosaki-cho, Ukyou-ku, Kyoto 615-8585, Japan

Tel; 075-311-2121 Fax; 075-315-0172

E-mail;

URL; <http://www.rohm.co.jp/index-j.html>

Category:

- A1. Global Warming
- B2. Longevity
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

It is a thermal head for the mobile printer, which contributes to energy-saving. It allows longevity of the battery by 20% compared to the conventional models.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0030

Electrical and Electronic Components

Power-supply

Power-supply for small base transceiver station (BTS) for communication

Shindengen Electric Manufacturing Co., Ltd.

10-13, Minami-cho, Hannou, Saitama 357-8585, Japan

Tel; 03-3279-4431 Fax; 03-3279-6478

E-mail;

URL; http://www.shindengen.co.jp/top_j/index.html

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

It is a power-supply unit for small base transceiver station (BTS) for communication with high efficiency accomplished. The picture shows a 15A rectification unit contained in the equipment. Five units are connected in parallel within this equipment, supplying power of up to 48V60A maximum. The equipment is installed outside like rooftop of the buildings and operated at single-phase AC100V. The conversion efficiency of this equipment has been 87% in the past, however, we have accomplished high efficiency of 90.7%, adopting a new circuit for power factor compensation section.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0031

Electrical and Electronic Components

Condenser

GeoDRY, dry-type phase advancing condenser

Nichicon Corporation

Uehara Bldg., Oikedori Karasumahigashi-iru, Nakagyo-ku, Kyoto
604-0844, Japan
Tel; 075-231-8461 Fax; 075-256-4158
E-mail;
URL; <http://www.nichicon-us.com/index.html>

Category:

- A3. Hazardous Substance
- B4. Higher Quality

GeoDRY is a dry-type phase advancing condenser with adoption of N2 gas for insulating gas as a substitute for SF6 gas, objective gas of emission control which leads up to global warming. The product is adopted as a receiving / transforming equipment in the facilities which make much account of disaster prevention, such as building, hotel, hospital and department store. It also adopts the lead-free solder for the terminal area of condenser element and polyvinyl-chloride(PVC)-less products for terminal protection cap. It is a disaster preventing dry type advancing condenser with full lineup of from high pressure to low pressure.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0032

Electrical and Electronic Components

Power conditioner

Power conditioner for photovoltaic generation

Nichicon Corporation

Uehara Bldg., Oikedori Karasumahigashi-iru, Nakagyo-ku, Kyoto
604-0844, Japan
Tel; 075-231-8461 Fax; 075-256-4158
E-mail;
URL; <http://www.nichicon-us.com/index.html>

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

It is a compact inexpensive power conditioner for photovoltaic generation with the transformer of "transless type." It transforms solar energy into electric energy efficiently, materializing zero nighttime electricity consumption as well as improvement of power generation efficiency. It comes under the spotlight for installation on the rooftops of buildings, housing and public facility, the roofs of parking or station house, the side wall / sound-proof wall of the expressway.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0033

Electrical and Electronic Components

Cellular Analog One Chip

LSI : Effective power control reduced power consumption to half.

Ricoh Company, Ltd.

1-15-5, Minami-Aoyama, Minato-ku, Tokyo 107-8544, Japan

Tel; 03-5411-4404 Fax; 03-5411-4410

E-mail; envinfo@ricoh.co.jp

URL; <http://www.ricoh.co.jp/ecology/>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This analog one chip LSI for cellular phone enabled the half-reduction of power consumption with effective power control. It is also equipped with "eco-mode voltage stabilization mains" that can switch power consumption. It is provided to makers that produces several kinds of cellular phones and reduces CO₂ of 1000 ton on an annual basis.



Products/Model :

RC5T623, RC5T625, RC5T513

Eco-components No.0034

Electrical and Electronic Components

Solid capacitor

Energy-saving solid capacitor causing no environmental pollution

Showa Denko K.K.

13-9, Shiba Daimon 1-chome, Minato-ku, Tokyo 105-8518 JAPAN

Tel; 03-5470-3587 Fax; 03-5473-0590

E-mail;

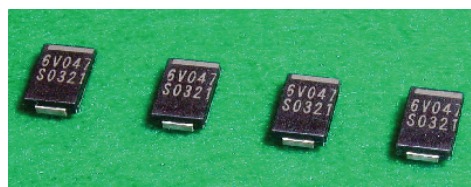
URL; <http://www.sdk.co.jp>

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

We have used electro conductive polymer with high electrical conduction/high thermo stability for electrolyte to realize produce a chip-type solid capacitor with ultra-low electrical resistance and high heat resistance. This capacitor is used for communications equipment such as personal computers and peripheral devices, mobile terminals, and digital cameras.

This product can save electric power consumption due to its ultra-low internal resistance (ESR). Moreover, the product does not cause environmental contamination because its lead end does not contain any lead. Due to the wide range of possible operating temperatures (-50°C ~ +105°C) and its high heat resistance, this product can be used with lead-free solder.



Products/Model :

SDK-CAP HOTAKA

Eco-components No.0035

Electrical and Electronic Components

Multi-layer ceramic chip capacitor

Small sized multi-layer ceramic chip capacitor with large capacitance

Taiyo Yuden Co., Ltd.

6-16-20 Ueno, Taito-ku, Tokyo, 110-0005 Japan

Tel; 03-3822-0101 Fax; 03-3835-4754

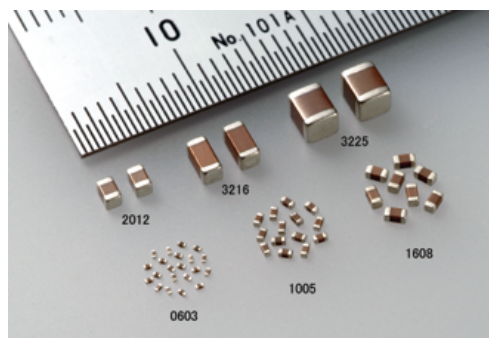
E-mail; kankyou@jty.yuden.co.jp

URL; <http://www.ty-top.com>

Category:

- A5. Resource Consumption
- B2. Longevity
- B4. Higher Quality
- C1. Material Extraction
- C3. Design and Material Selection

Advanced materials technologies allow laminations to turn into thin films, realizing small package of the product. As a result, the amount of materials used can be significantly reduced, while product transportation gets more efficient, and products carrying the inductors can be downsized. In addition, this product uses no regulated substances such as those designated under the RoHS, so it does not pose environmental problems on disposal.



Products/Model :

Multilayer Capacitor, *MK series

Eco-components No.0036

Electrical and Electric Components

Klystron

Research klystrons: Recyclable

Toshiba Electron Tubes & Devices Co., Ltd.

1385, Shimoishigami, Otawara-shi, Tochigi 324-8550 Japan

Tel; 0287-26-6557 Fax; 0287-26-6060

E-mail;

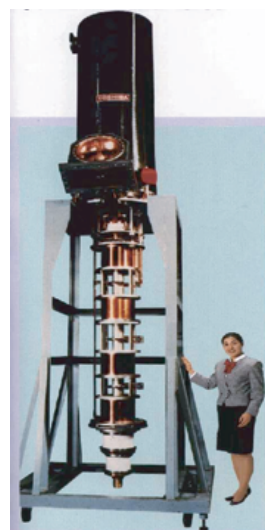
URL; http://www.toshiba-tetd.co.jp/tetd/qcinfo/ele_kankyo_j.htm

Category:

- A5. Resource Consumption
- B1. Recyclability
- B2. Longevity
- B3. Resource Saving
- C6. End-of-Life

Spent electron tubes were collected, allowing parts that had not deteriorated to be reused. (Deteriorated parts were replaced so that products could be reused.) In addition, we devised a method for commercial production of electron tubes that does not impose loads on the manufacturing process. This produced the following advantages:

1. 90% of the total weight of the electron tubes could be reused.
2. Energy consumption during the fabricating process could be reduced to 78% of that of conventional 1999 products.
3. We could supply recycled products with the same performance, life and low-cost as new products.



Eco-components No.0037

Electrical and Electronic Components

Electrical contact

Eco-friendly Cd-free electrical contact for breakers

A.L.M.T. TECH Inc.

1-1-1, Koya-Kita, Itami, Hyogo 664-0016, Japan

Tel; 072-771-0551 Fax; 072-772-3360

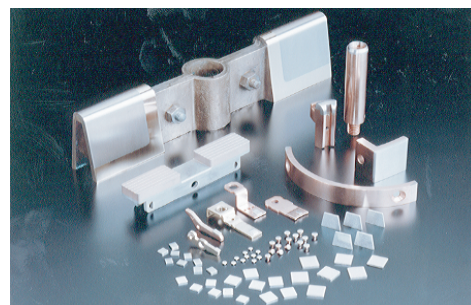
E-mail; goma-nori@allied-material.co.jp

URL; <http://www.allied-material.co.jp/>

Category:

- A3. Hazardous Substance
- B4. Higher Quality

We produced an electrical contact without cadmium, which is a harmful substance. It offers almost the same performance as conventional electrical contacts containing cadmium that have been widely-used as breaker contacts. The breaker mechanism does not need to be modified to replace the conventional contact with the Cd-free electrical contact.



Products/Model :

Cd-free Ag Alloy Electrical Contact 「FDX」 Series

Eco-components No.0038

Electrical and Electronic Components

Light-Emitting Diode (LED)

High Luminance LED for Mobile Phone cameras

Citizen Watch Co., Ltd.

1-23-1, Kamikurechi, Fujiyoshida-shi, Yamanashi, 403-0001 Japan

Tel; 0555-23-4121 Fax; 0555-23-2426

E-mail;

URL; <http://www.c-e.co.jp/home.asp>

Category:

- B2. Longevity
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving
- C3. Design and Material Selection

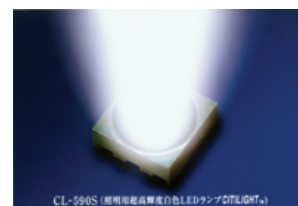
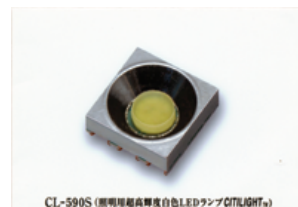
Energy conservation: Power consumption per package is up to 320mW (during DC driving). The product is an ultra energy-saving light.

Resource-saving: The product is compact (5mm×5mm×1.5mm), reducing the use of resources.

High luminance: The product achieves high luminance of 4000mcd per chip. Sufficient light can be obtained with a few chips.

Lead-free: Lead is not used for the mounting board.

Extra-long-life: The product has an extra long life, exceeding 1000 hours of luminance half-life.



Products/Model :

CL-590S-4WD-D

Eco-components No.0039

Electrical and Electronic Components

DC/DC Converter

Downsized high efficiency DC/DC converter

FDK CORPORATION

5-36-11 Shinbashi, Minato-ku, Tokyo 105-8677 Japan

Tel; 03-3434-1271 Fax; 03-3434-1375

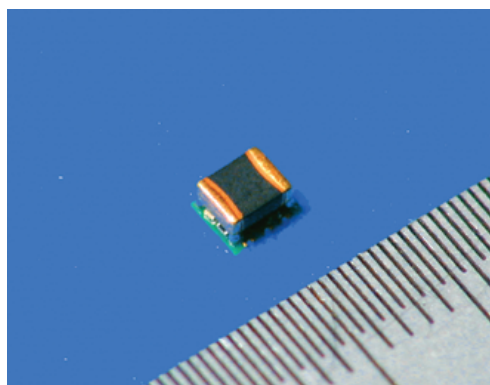
E-mail; narishi@fdk.co.jp

URL; <http://www.fdk.co.jp/>

Category:

- A5. Resource Consumption
- B3. Resource Saving
- C2. Material and Components Production

Components were downsized by the use of higher power conversion frequency 2MHz for the converter. In addition, the development of a power inductor with low-loss magnetic material and coil structure brought about a dramatic cut in loss of circuit. Developed from scratch with the aim of environmental protection, this product is lead-free. It is also resource and energy saving thanks to downsizing and new efficiency improvements.



Eco-components No.0040

Electrical and Electronic Components

Actuator Unit

FCU series resource-saving actuator unit

FDK CORPORATION

5-36-11 Shinbashi, Minato-ku, Tokyo 105-8677 Japan

Tel; 03-3434-1271 Fax; 03-3434-1375

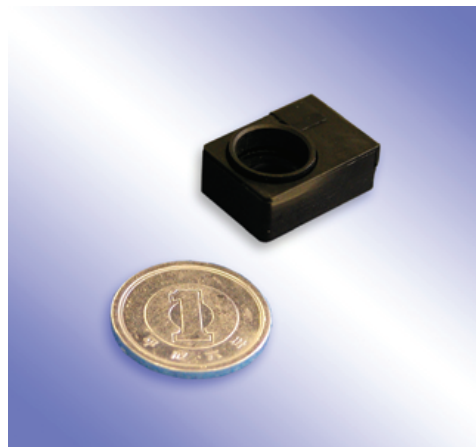
E-mail; narishi@fdk.co.jp

URL; <http://www.fdk.co.jp/>

Category:

- A5. Resource Consumption
- B3. Resource Saving
- C2. Material and Components Production

The FCU series Actuator unit has been downsized, made slimmer and uses less parts, achieving resource savings. In addition, developing a non-carrying-current latch allows lenses to maintain their position when the power is turned off, substantially reducing power consumption. In addition, the camera body is manufactured using lead-free material.



Products/Model :
Actuator Unit 「FCU Series」

Eco-components No.0041

Electrical and Electronic Components

Lead-free Connector Terminal

Connector terminal: Lead-free soldering

Fujikura Ltd.

1-5-1, Kiba, Koto-ku, Tokyo, 135-8512 Japan

Tel; 03-5606-1153 Fax; 03-5606-1580

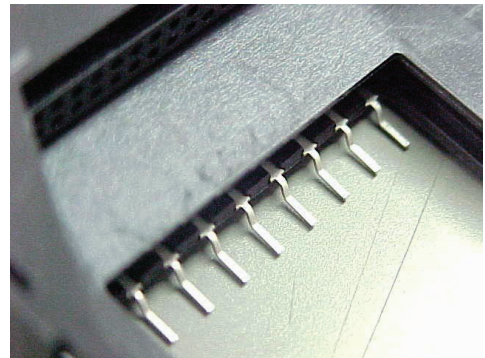
E-mail; hinoue@fujikura.co.jp

URL; <http://www.fujikura.co.jp/>

Category:

- A3. Hazardous Substance
- A4. Waste
- C4. Product Manufacture
- C6. End-of-Life

The product is a SMT terminal for card connectors, with lead-free soldering.



Eco-components No.0042

Electrical and Electronic Components

Lead-free Connector Terminal

Lead-free Connector Terminal: Arc welding without soldering, car parts etc.

Fujikura Ltd.

1-5-1, Kiba, Koto-ku, Tokyo, 135-8512 Japan

Tel; 03-5606-1153 Fax; 03-5606-1580

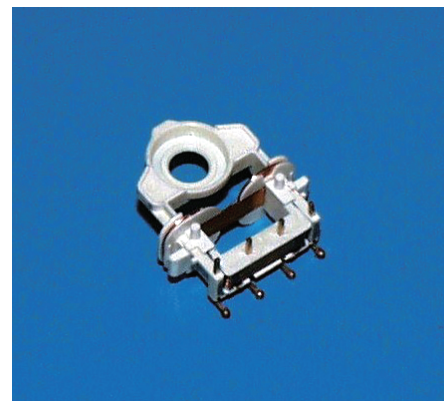
E-mail; hinoue@fujikura.co.jp

URL; <http://www.fujikura.co.jp/>

Category:

- A3. Hazardous Substance
- A4. Waste
- C4. Product Manufacture
- C6. End-of-Life

The product is a flexible printed wiring board with halogen-free adhesive while solder contains no lead.



Eco-components No.0043

Electrical and Electronic Components

TV Tuner

Postage stamp-sized silicon-based TV tuner that saves energy and resources

Sony Corporation

6-7-35 Kitashinagawa Shinagawa-ku, Tokyo, 141-0001 Japan

Tel; 03-5448-2111 Fax; 03-5448-2244

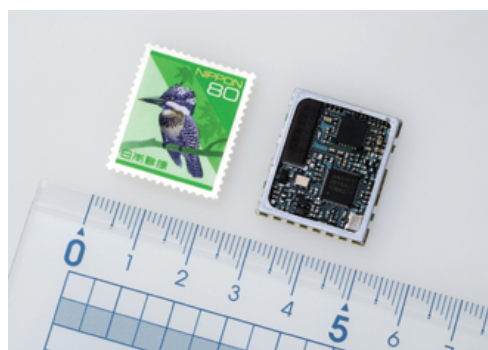
E-mail;

URL; <http://www.sony.net>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving
- C1. Material Extraction

Its total volume is a quarter of that of a conventional television tuner, halving both power consumption and the number of parts needed.



Products/Model :

TV Tuner (BTF-ZJ401/411)

Eco-components No.0044

Electrical and Electronic Components

Inductor

Small-size multi-layer high-loss inductor for digital equipment

Taiyo Yuden Co., Ltd.

6-16-20 Ueno, Taito-ku, Tokyo, 110-0005 Japan

Tel; 03-3822-0101 Fax; 03-3835-4754

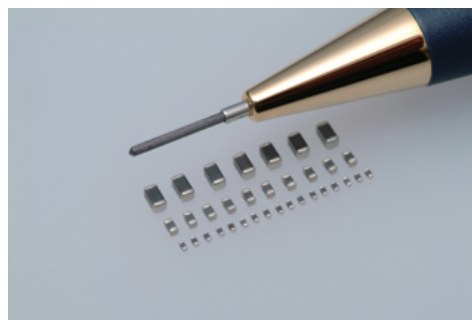
E-mail; kankyou@jty.yuden.co.jp

URL; <http://www.ty-top.com>

Category:

- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality
- C1. Material Extraction
- C3. Design and Material Selection

Advanced materials technologies allow laminations to turn into thin films, realizing small package of the product. As a result, the amount of materials used can be significantly reduced, while product transportation gets more efficient, and products carrying the inductors can be downsized. In addition, this product uses no regulated substances such as those designated under the RoHS, so it does not pose environmental problems on disposal.



Products/Model :

Multilayer Ferrite Chip Bead, BK series

Eco-components No.0045

Electrical and Electronic Components

Switching power supply

Energy-saving switching power supply for Set Manufacturer

TDK Corporation

1-13-1, Nihonbashi, Chuo-ku, Tokyo 103-8272, Japan

Tel; 03-3278-5111 Fax; 03-5201-7110

E-mail; kankyo@mb1.tdk.co.jp

URL; <http://www.tdk.co.jp>

Category:

- A1. Global Warming
- B3. Resource Saving
- B5. Energy Saving
- C2. Material and Components Production
- C5. Product Use, Maintenance and Repair

Through its efforts to make circuits thinner and more efficient by adopting newly developed low-profile components and its unique 3-dimensional CAD mounting design technology incorporating thermal analysis simulation, TDK has made its switching power supply much smaller and lighter than conventional models, with a level of efficiency that far surpasses conventional models.



RTW/50W



RKW/50W



他社現行タイプ/50W

Products/Model :

Switching power supplies

Eco-components No.0046

Electrical and Electronic Components

Component Plated with Solder

Component plated with lead-free solder for electronic equipment

The Furukawa Electric Co., Ltd.

6-1, Marunouchi 2-chome, Chiyoda-ku, Tokyo, 100-8322 Japan

Tel; Fax;

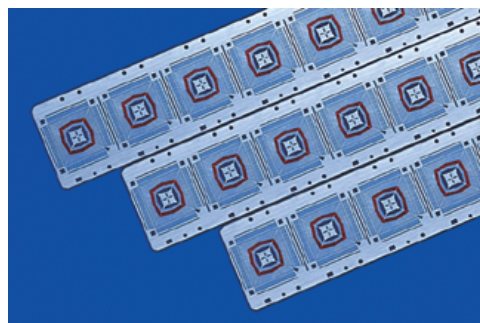
E-mail; r-d@ho.furukawa.co.jp

URL; <http://www.furukawa.co.jp>

Category:

- A3. Hazardous Substance
- B6. Environmental Purification
- C3. Design and Material Selection
- C4. Product Manufacture

Lead-free plating for the leads of ICs, capacitors, connectors, printed circuit boards etc. has been achieved by using a tinbismuth alloy instead of the tinlead material used previously, improving elimination of lead from customers' mounting process.



Products/Model :

Lead-Free Plating for Electronic Components

Eco-components No.0047

Electrical and Electronic Components

Solder pre-coating technology

Solder pre-coating technology for pollution free lead-free

Showa Denko K.K.

13-9, Shiba Daimon 1-chome, Minato-ku, Tokyo 105-8518 JAPAN

Tel; 03-5470-3344 Fax; 03-5473-0590

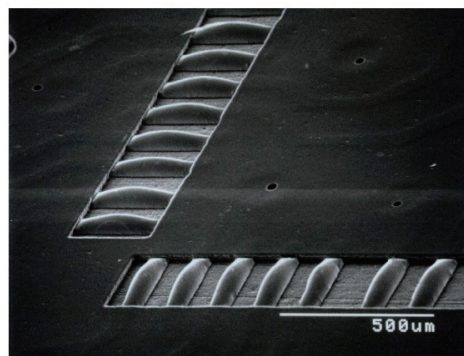
E-mail;

URL; <http://www.sdk.co.jp>

Category:

- A3. Hazardous Substance
- B3. Resource Saving
- B4. Higher Quality
- C4. Product Manufacture
- C5. Product Use, Maintenance and Repair

We have developed technology to produce ultra fine bumps with materials using lead-free solder. The technology is being increasingly deployed as an indispensable method for ultra small packaging.



Products/Model :

Super JUFFIT Process

Eco-components No.0048

Electrical and Electronic Components

Bulk feeder

Bulk feeder: Recyclable electronic parts feeder with no waste

Taiyo Yuden Co., Ltd.

6-16-20 Ueno, Taito-ku, Tokyo, 110-0005 Japan

Tel; 03-3822-0101 Fax; 03-3835-4754

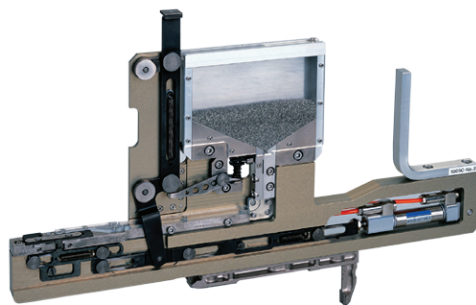
E-mail; kankyou@jty.yuden.co.jp

URL; <http://www.ty-top.com>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- C4. Product Manufacture
- C6. End-of-Life

Electronics parts are usually packed into a carrier tape, and the tape is then wound around a reel. The reel is then used to “feed” parts to a mounting machine, but after use, the carrier tape cannot be recycled, so it has to be disposed of as a waste. However, the bulk feeder does not use carrier tapes, thus it does not generate the waste. Furthermore, by using this, the energy used for packaging electronic parts can be saved, the packages themselves can be compact, and the product transportation can be much more efficient.



Products/Model :

Bulk Feeder, F1 series

Eco-components No.0049

Electrical and Electronic Components

Heat Pipe

Micro Heat-Pipe for electronic appliances and computers

The Furukawa Electric Co., Ltd.

6-1, Marunouchi 2-chome, Chiyoda-ku, Tokyo, 100-8322 Japan

Tel; 03-3286-3495 Fax; 03-3286-3707

E-mail; hiroki@ho.furukawa.co.jp

URL; <http://www.furukawa.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B5. Energy Saving
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

Furukawa Electric's micro heat-pipe provides a solution to the problem of heat-dissipation and cooling of electronic equipment, allowing higher computer power combined with energy savings.



Products/Model :
Micro Heat-Pipe

Eco-components No.0050

Electrical and Electronic Components

Heat sink for electrical/electronic equipment

Eco-friendly high-performance heat sink for electrical/electronic equipment

Showa Denko K.K.

13-9, Shiba Daimon 1-chome, Minato-ku, Tokyo 105-8518 JAPAN

Tel; 03-5470-3770 Fax; 03-5470-3377

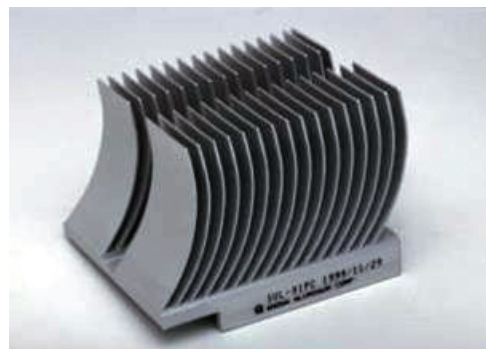
E-mail;

URL; <http://www.sdk.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B5. Energy Saving
- C3. Design and Material Selection
- C4. Product Manufacture

While measures against heat issues regarding electrical and electronic equipment becomes increasingly complicated and imminent, our aluminum high-performance heat sink is widely used as an efficient device to counter such issues, thus contributing to resource and energy saving. Also, there are now an increasing number of cases where skive heat sinks are used as an inverter radiator for high efficiency air conditioners.



Products/Model :
Skyve heat sink

Eco-components No.0051

Electrical and Electronic Components

Power Cord with Plug

Environmentally-friendly electrical power cord with plug

Fujikura Ltd.

1-5-1 Kiba, Koto-ku, Tokyo 135-8512 Japan

Tel; 03-5606-1272 Fax; 03-5606-1549

E-mail; sanden@info.fujikura.co.jp

URL; <http://www.fujikura.co.jp/>

Category:

● A3. Hazardous Substance

Eco Power Cord with plug is made using halogen-free and lead-free materials to eliminate the risk of dioxin or discharge of lead.



Products/Model :

Eco-POWER SUPPLY CORD

Eco-components No.0052

Electrical and Electronic Components

Electric Wire

Lead-free electric wire for electronic and communication equipment

Fujikura Ltd.

1-5-1 Kiba, Koto-ku, Tokyo 135-8512 Japan

Tel; 03-5606-2417 Fax; 03-5606-2418

E-mail; askecd@fujikura.co.jp

URL; <http://www.fujikura.co.jp/>

Category:

● A3. Hazardous Substance

● B6. Environmental Purification

● C5. Product Use, Maintenance and Repair

Unleaded stabilizer replaces the lead stabilizer in wire coating. In addition, the conductor is plated with unleaded material. We manufacture a wide range of products such as electronic wire, coaxial cable, and interface cable.



Products/Model :

UL style wire

Eco-components No.0053

Electrical and Electronic Components

Eco EPC

Eco EPC: Halogen free adhesive, Pb free solder

Fujikura Ltd.

1-5-1, Kiba, Koto-ku, Tokyo, 135-8512 Japan

Tel; 03-5606-1153 Fax; 03-5606-1580

E-mail; hinoue@fujikura.co.jp

URL; <http://www.fujikura.co.jp/>

Category:

- A3. Hazardous Substance
- A4. Waste
- C4. Product Manufacture
- C6. End-of-Life

The product is a flexible printed wiring board with halogen-free adhesive while solder contains no lead.



Eco-components No.0054

Electrical and Electronic Components

Electric Wire, Cord

Halogen-free and lead-free electric wire, cable and cord

The Furukawa Electric Co., Ltd.

6-1, Marunouchi 2-chome, Chiyoda-ku, Tokyo, 100-8322 Japan

Tel; Fax;

E-mail; r-d@ho.furukawa.co.jp

URL; <http://www.furukawa.co.jp>

Category:

- A3. Hazardous Substance
- A4. Waste
- B6. Environmental Purification
- C3. Design and Material Selection
- C6. End-of-Life

These wires and cables do not use halogens such as PVC, allowing easy disposal by incineration. ECO-ACE general cables for indoor use, ECOBEAMEX wires for electrical appliances and power cords together with highly flame-retardant optical cables are already in practical use.



Products/Model :

ECO Electrical Wire,
Halogen-Free Wire • ECO-ACE,
ECOBEAMEX

Eco-components No.0055

Electrical and Electronic Components

Flexible flat cable (FFC)

UL-conforming halogen-free flexible flat cable for electrical appliances

Sumitomo Electric Flat Components, INC.

3-3, Satsuki-cho, Kanuma, Tochigi, 322-8585 Japan

Tel; Fax;

E-mail;

URL; <http://www.sei.co.jp/ewp/J/>

Category:

- A3. Hazardous Substance
- C3. Design and Material Selection

This product is a UL-conforming halogen-free flat cable, which does not include PVC or bromic or chloride flame retardant. In addition, the product does not use environment-load substances such as lead or cadmium.



Products/Model :
Halogen Free SUMI-CARD

Eco-components No.0056

Electrical and Electronic Components

Wire/Cable

Eco-friendly, recyclable Halogen-free wire/cable for vehicle, electric/electronic

Sumitomo Wiring Systems, Ltd.

1-14 Nishisuehiro-cho, Yokkaichi, Mie 510-8503

Tel; 0593-54-6200 Fax; 0593-54-6318

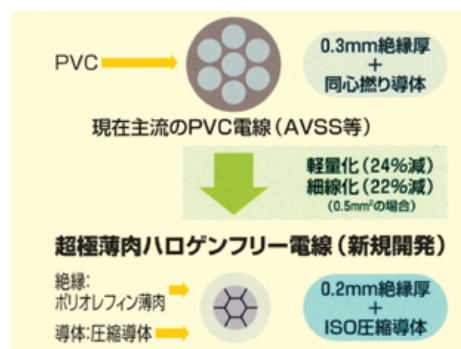
E-mail;

URL; <http://www.sws.co.jp/>

Category:

- A4. Waste
- B1. Recyclability
- B6. Environmental Purification
- C3. Design and Material Selection
- C6. End-of-Life

The covering material of this halogen-free wire and cable is compounded by polyolefin resin with metalhydroxide as a flame retardant, resulting in a flame-resisting structure by water which is generated from metalhydroxide and suppresses flame propagation. It does not emit halogenated gas and generates low smoke. Thermal recycling is possible, reducing the volume of landfill dust. The wire meets ISO standard, has light weight, small diameter, and it offers excellent abrasion resistance and water resistance.



Products/Model :
Halogen-Free Wire and Cable

Eco-components No.0057

Electrical and Electronic Components

Battery

NAS battery (sodium sulfur battery)

NGK Insulators, Ltd.

2-56, Suda-cho, Mizuho-ku, Nagoya-shi, Aichi 467-8530, Japan

Tel; 052-872-7171 Fax;

E-mail;

URL; <http://www.ngk.co.jp/>

Category:

- A1. Global Warming
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The NAS battery is a secondary battery that saves a large amount of power in the battery. This battery is made of sulfur and sodium electrodes. Charging and discharging are made though the chemical reactions of sodium ions reciprocating between sulfur and sodium electrodes. The electrodes are separated by a beta aluminum tube (solid electrolyte). Because no burning entails through charging and discharging, no harmful substances are emitted. The power storing is made using the power generated in the night from the power plant with low fossil energy rate. An efficient use of power generation facility is available by storing the power in the night and using the power in the daytime, when the power consumption is high.



八丈島では、東京電力が新エネルギー・産業技術総合開発機構 (NEDO) の委託を受けて、2001年3月から、風力発電設備と組み合わせた実証試験を行っている

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0058

Electrical and Electronic Components

Battery

Lead storage battery: Reduction of lead usage, industrial applications

YUASA Corporation

2-3-21, Kosobe-cho, Takatsuki-shi, Osaka 569-1115, Japan

Tel; 072-686-6181 Fax; 072-686-6345

E-mail;

URL; <http://www.yuasa-jpn.co.jp/menuhp.html>

Category:

- A3. Hazardous Substance
- B2. Longevity
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

This is an industrial lead storage battery with reduced lead. The product has about twice as life as conventional products. Recyclable polypropylene resins are used in its tank and cap. In addition, the reduction of parts materials realized miniaturization (volume ratio of 20%, high efficiency) and weight reduction (10% reduction).



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0059

Electrical and Electronic Components

Battery

Lithium coin battery

Hitachi Maxell, Ltd.

1-1-88, Ushitora, Ibaraki-shi, Osaka 567-8567, Japan

Tel; 072-623-8250 Fax;

E-mail;

URL; <http://www.maxell.co.jp/environment/contact.html>

Category:

- A1. Global Warming
- B2. Longevity
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The battery volume is required raising to meet every purpose, in compliance with long-term usage of the apparatuses. In order to satisfy this demand, Hitachi Maxell has raised the battery volume by 10-15% compared to the conventional ones. We reduced the environment burden thus through power-up and ensuing long-term usability, extending battery exchange cycle.



>> CR1616

※ Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0060

Electrical and Electronic Components

Battery

Size AA alkaline dry cell designed for longevity

Hitachi Maxell, Ltd.

1-1-88, Ushitora, Ibaraki-shi, Osaka 567-8567, Japan

Tel; 072-623-8250 Fax;

E-mail;

URL; <http://www.maxell.co.jp/environment/contact.html>

Category:

- A1. Global Warming
- B2. Longevity
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

It is a new dynamic size AA alkaline dry cell with longevity by approximately 40% accomplished. To meet the need of digital camera, we got around to a review of the technology and the structure of size AA alkaline dry cell, increasing the internal volume by making the wall of cathode can thinner. Additionally, high-drain pulse performance is raised by roughly 40% compared to the conventional one through adoption of power expander technique, materializing top-level performance in the industry.



>> LR6(S)

※ Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0061

Electrical and Electronic Components

Solid electrolyte fuel cell separator

Solid electrolyte fuel cell separator

Hitachi Metals, Ltd.

Shinjyuku park tower 3-7-1, Nishishinjyuku, Shinjyuku-ku, Tokyo
163-1015, Japan

Tel; 03-5381-6955-6958 Fax; 03-5381-6959

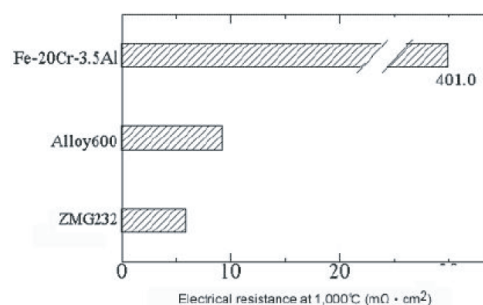
E-mail;

URL; <http://www.hitachi-metals.co.jp/>

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The fuel cell is a power generator which produce electric energy through the electrochemical reaction of the fuel and oxygen, expected as the energy source for the next-generation on account of its high generating efficiency and low environmental burden. ZMG232, the material of solid electrolyte fuel cell separator is satisfactory with (1) electroconductivity, (2) the operation at the temperature as high as 900 - 1000 degree centigrade, (3) the coefficient of thermal expansion close to that of ZrO_2 . It is a ferrite system alloy with Fe-22Cr in major proportions, trace element added. It has high oxidation resistance even at 1000 degree centigrade.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0062

Electrical and Electronic Components

Rare Earth Magnet

Rare Earth Magnet

Shin-Etsu Chemical Co., Ltd.

2-6-1, Otemachi, Chiyoda-ku, Tokyo 100-0004, Japan

Tel; 03-3246-5091 Fax;

E-mail;

URL; <http://www.shinetsu.co.jp/j/index.shtml>

Category:

- A1. Global Warming
- B2. Longevity
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This is the high-powered permanent magnet made from rare earth elements such as neodymium and samarium. The products equipped with this magnet with strong magnetic force are PC's hard disc drives, headset stereos, and motors of factory automation and office automation equipment, as well as air-conditioning compressor motors that require highly efficient motors. This magnet's volume and weight, and its usage of copper wire were reduced by 15% and 40%, respectively, compared to conventional magnets. Regarding energy efficiency, COP was improved 5-10% and power consumption was significantly reduced.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0063

Electrical and Electronic Components

Permanent magnet

High-performance permanent magnet NEOMAX

Neomax Co., Ltd.

Sumitomo building, 4-7-19, Kitahama, Chuo-ku, Osaka

541-0041, Japan

Tel; 06-620-8822 Fax; 06-6220-8909

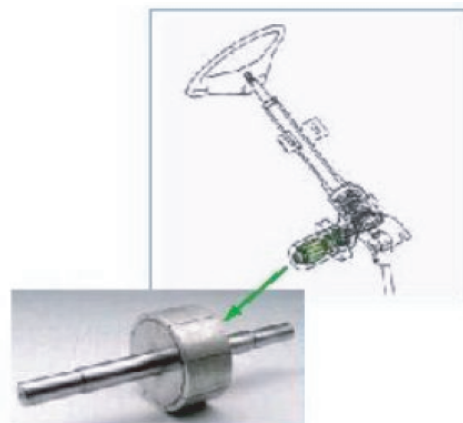
E-mail;

URL; <http://www.neomax.co.jp/index.html>

Category:

- A1. Global Warming
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

It is world's strongest permanent magnet NEOMAX. It contributes to reduction of environment burden such as energy-saving and resource-saving in a wide range of field, from the electric apparatus down. In particular, it administers to enormous reduction of environment burden through the lifecycle of the apparatuses by high efficiency of the motor. The picture shows a rotor for EPS (electric power steering). The fuel consumption can be improved by shifting the hydraulic power steering of a car to the electric one, eliminating the oil circulating loss. NEOMAX is used for the rotor of EPS motor.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0064

Electrical and Electronic Components

Motor

Cadmium-free motor

Mabuchi Motor Co., Ltd.

430, Matsuhidai, Matsudo, Chiba 270-2280, Japan

Tel; 047-384-1111 Fax; 047-389-5299

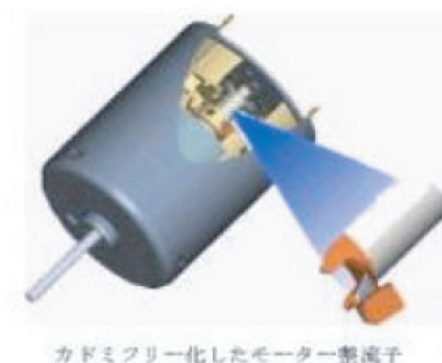
E-mail;

URL; <http://www.mabuchi-motor.co.jp/>

Category:

- A3. Hazardous Substance

The material with trace of cadmium contained in some commutators has been used so far in order to enjoy longevity of the motor commutator and a contact stability. The cadmium is a harmful heavy metal for ecosystem. MABUCHI Motor Co., Ltd. is under changeover so as to nullify the usage of cadmium for every product.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0065

Electrical and Electronic Components

Halide lamp

GS ceramic halide lamp

Japan Storage Battery Co., Ltd.

1, Inobana-cho, Nishinosho, Kisshoin, Minami-ku, Kyoto-shi, Kyoto
601-8520, Japan
Tel; 075-316-3127 Fax;
E-mail;
URL; <http://www.nippondenchi.co.jp/npd/toi/toi.html>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B2. Longevity
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

It is "Eco-cera," GS ceramic metal halide lamp series with an excellent economical efficiency and an optical performance. The conventional metal halide lamp had a lifetime of 9,000 hours. Nevertheless, it is drastically improved as long as 12,000 hours by adoption of the translucent ceramics for luminous tube. In addition, the usage of GS ceramic halide lamp as a substitute for the conventional mercury-arc lamp enables power-saving by 45% keeping practically the same brightness. The power saving by 10% or more can be achieved only by replace the conventional metal halide lamp / mercury-arc lamp with GS ceramic halide lamp.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0066

Semiconductor Manufacturing Devices

Jacket heater

Order-made jacket-heater of adiabatic and energy-saving type

Mitsui Mining Materials Company Limited

3-3, Toyosu-3 chome, Koutou-ku, Tokyo 135-6006 Japan
Tel; 03-5560-2113 Fax; 03-5560-2192
E-mail;
URL;

Category:

- A5. Resource Consumption
- B5. Energy Saving
- C4. Product Manufacture

The product is a jacket heater for an exhaust-gas tube of the CVD apparatus that is used to manufacture semiconductor, liquid crystal, etc. Original double-layer silica-yarn coated heating-wire made it possible to use safely a higher-density current flow. By placing a reflection film of heat inside the outer coat, the improvement of heating effect and the lowering of temperature of the outer coat is realized.



Eco-components No.0067

Semiconductor Manufacturing Devices

PFC treatment equipment

Exhaust gas treatment equipment to help prevent global warming

Showa Denko K.K.

13-9, Shiba Daimon 1-chome, Minato-ku, Tokyo, 105-8518 Japan

Tel; 044-329-0760 Fax; 044-329-0797

E-mail;

URL; <http://www.sdk.co.jp>

Category:

- A1. Global Warming
- B4. Higher Quality
- B6. Environmental Purification
- C4. Product Manufacture
- C6. End-of-Life

This exhaust gas treatment equipment decomposes and eliminates PFC, SF₆ and NF₃ (greenhouse effect gases) which are discharged in the production of semiconductors. This product not only eliminates toxic from PFC, SF₆ and NF₃ at a low temperature (600°C or lower) and with high decomposing ratio (at least 99%) but also disposes fluorine sour gases (such as HF, SiF₄) and carbon monoxide at the same time.

It also uses a system by which toxic elimination column units can be easily replaced. Used toxic elimination agent can be recycled as cement material.



Products/Model :

Clean-S PF

Eco-components No.0068

Semiconductor Manufacturing Devices

Dry vacuum pump

ESR series: Eco-friendly, energy-saving and cost-saving dry vacuum pump

Ebara Corporation

11-1 Haneda Asahi-cho. Ohta-ku Tokyo 144-8510 Japan

Tel; 03-3743-6135 Fax; 03-3743-6589

E-mail; sakane.shigeru@ebara.com

URL; <http://www.ebara.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving

The ESR series released in April 2003 reduced power consumption by up to 60%, in comparison with the AA series released in 1994. Products in the ESR series set their operating performance according to service conditions to achieve further energy savings. In addition, resource savings were achieved by reducing their volume and mass by up to 50% and approximately 30% respectively.



Products/Model :

Dry Vacuum Pump ESR Series

Eco-components No.0069

Machine Parts

Needle for blood glucose measuring-apparatus
(used to take blood sample from finger for measurement of blood glucose value)

Non-exposed needle for blood glucose measuring avoids injury on disposal

Terumo Corporation

2-44-1, Hatagaya, shibuya-ku, Tokyo, 151-0072 Japan

Tel; 03-3374-8111 Fax; 03-3374-8399

E-mail; Kankyou@terumo.co.jp

URL; <http://www.terumo.co.jp>

Category:

- A4. Waste
- B6. Environmental Purification
- C6. End-of-Life

Blood sugar measuring devices are used to prick the finger to take a blood sample which is then inserted into the device to measure the glucose (blood sugar) level. However, patients have raised concerns about the possibility of injury when disposing of the needle (known as a lancet needle). It also presents a risk of injury from a sharp, bloodied item when waste is collected. To overcome this problem, Terumo has designed its blood glucose monitoring device so that the needle is not exposed, either before or after use or during disposal.



Eco-components No.0070

Machine Parts

Water development photosensitive printing plate

Water development photosensitive printing plate without organic solvents

Toyobo Co., Ltd.

2-8 Dojimahama 2-chome, Kita-ku, Osaka, 530-8230 Japan

Tel; 06-6348-3417 Fax; 06-6348-3393

E-mail; kankyo@ho.toyobo.co.jp

URL; <http://www.toyobo.co.jp>

Category:

- A3. Hazardous Substance
- B6. Environmental Purification
- C4. Product Manufacture

Printight® is a water-soluble nylon based photosensitive printing plate for use in letterpress applications. It offers superior resolution and excellent reproduction and has been widely accepted in various fields of the printing industry. Cosmolight® is a water-washable photosensitive printing plate for flexo printing. This revolutionary plate eliminates the need for toxic, environmentally damaging washout solvents. It is durable and can be used with water-based inks as well as solvent-based and UV inks.



Products/Model :

Cosmolight® Printight®

Eco-components No.0071

Machine Parts

Transmission belt

Energy-saving transmission belt for general machinery

Bando Chemical Industries Ltd.

2-24, Isogami-dori 2, Chuo-ku, Kobe-city, 651-0086 Japan

Tel; 078-232-2923 Fax;

E-mail;

URL; <http://www.bando.co.jp>

Category:

- A1. Global Warming
- A2. Air Pollution
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving

Our energy-saving V-belt reduces power loss in a belt power transmission system, exhibiting a power-saving effect.

This power saving can reduce the volume of CO₂ release as well as electricity consumption. In addition, further power savings can be realized by simply replacing the belt since a standard pulley is used.



Products/Model :

Bando Energy Saving V- Belt

Eco-components No.0072

Machine Parts

Bearing

Lube guard bearing: Protection of environmental pollution, clean applications

NSK Ltd.

1-6-3 Ohsaki, Shinagawa-ku, Tokyo 141-8560, Japan

Tel; 03-3779-7111 Fax; 03-3779-7431

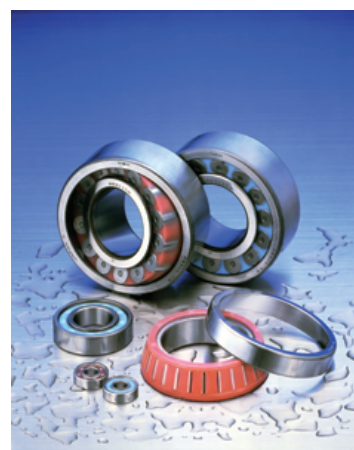
E-mail;

URL; <http://www.nsk.com>

Category:

- A5. Resource Consumption
- B2. Longevity
- B3. Resource Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

Lube guard bearing which uses resin "solid oil" containing much lubricating oil enabled its long-time use without grease filling for environments where grease easily spills with water and liquid and for applications where contamination though leaked grease would be unacceptable, and helps resource-saving and prevention of environmental pollution.



Products/Model :

Molded Oil Bearing™

Eco-components No.0073

Machine Parts

Wheel Hub-unit Bearing

Hub-unit bearing: Lightweight, long-life, low torque and easy -assembling

NSK Ltd.

1-6-3 Ohsaki, Shinagawa-ku, Tokyo 141-8560, Japan

Tel; 03-3779-7111 Fax; 03-3779-7431

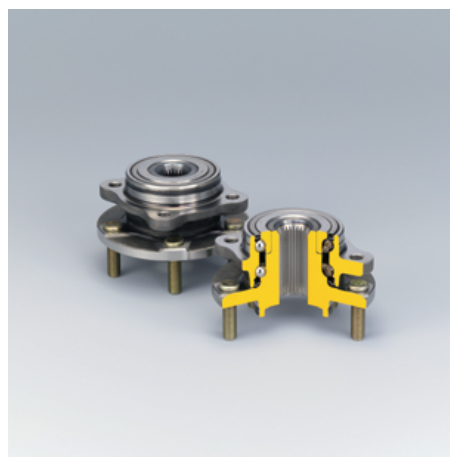
E-mail;

URL; <http://www.nsk.com>

Category:

- A1. Global Warming
- B2. Longevity
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

Considering long-life, low torque and easy -assembling and promoting unitization with parts for installation counterparts, the third-generation hub-unit bearing enabled a weight reduction of 300g or more per automobile wheel, which contributes to energy conservation and resource-saving.



Products/Model :
Hub-unit Bearing

Eco-components No.0074

Machine Parts

Bearing

High-ability bearing for machine tool spindles

Koyo Seiko Co., Ltd.

24-1, Kokubuhigashijo-cho, Kashiwabara-shi, Osaka 582-8588, Japan

Tel; 0729-77-1119 Fax;

E-mail;

URL; <http://www.koyo-seiko.co.jp/japanese/>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving

This ultra-high-speed angular contact ball bearing is the high-ability bearing developed to meet the demands for higher speed and efficiency. It increased limiting speed 1.2-1.5 times, but decreased temperature rise by 20-30% with the optimal design of internal elements. It achieved to reduce oil supply by approximately 30%, air consumption by 10-20%, noise level by 5-7dBA.

ハイアビリー軸受の構造図

タイプ	Rタイプ	Cタイプ	Dタイプ	Fタイプ
形状				
適用	高剛性	高負荷容量	超高速回転	超高速回転
潤滑方法	グリース/オイルエア			オイルエア



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0075

Machine Parts

Magnet Wire

Heat and refrigerant resistant Magnet Wire for CFC-free refrigerant systems

The Furukawa Electric Co., Ltd.

6-1, Marunouchi 2-chome, Chiyoda-ku, Tokyo, 100-8322 Japan

Tel; Fax;

E-mail; r-d@ho.furukawa.co.jp

URL; <http://www.furukawa.co.jp>

Category:

- A1. Global Warming
- B6. Environmental Purification
- C3. Design and Material Selection

This heat and refrigerant-resistant magnet wire is now in use in the compressor motors of air-conditioning and refrigerating systems using CFC-substitute refrigerants (HFC-R407C, R410A, R134a). It was developed to deal with refrigerant systems using substitutes for ozone-depleting CFCs.



Products/Model :

CFC-Substitute Compatible Magnet Wire HPWR-II

Eco-components No.0076

Machine Parts

Filter

Air filter, "Torayclean"

Toray Industries, Inc.

Toray Bldg., 2-1, Nihonbashi-Muromachi 2-chome, Chuo-ku, Tokyo, 103-8666 Japan

Tel; 03-3245-5179 Fax; 03-3245-5459

E-mail;

URL; <http://www.toray.co.jp>

Category:

- A2. Air Pollution

Torayclean* is an air filter created with Toraymicron*, an electret-type non-woven fabric incorporating Toray's advanced precision technology and original filter designing technology. Using Toraymicron* as its main material, the air filter realizes a high level of stable particle collection through low-pressure loss and long life. The filter is used mainly for air conditioning, industrial processes and air purifiers, contributing to the creation of clean air.



Eco-components No.0077

Machine Parts

Hollow fiber membrane

Hollow fiber membrane made of polyethylene for wastewater treatment

Mitsubishi Rayon Engineering Co., Ltd.

6-41, Konan 1-Chome, Minato-ku, Tokyo, 108-8506 Japan

Tel; 03-5495-3152 Fax; 03-5495-3217

E-mail; membrane@mrc.co.jp

URL; <http://www.sterapore.com/>

Category:

- A4. Waste
- B1. Recyclability
- B6. Environmental Purification
- C4. Product Manufacture
- C6. End-of-Life

Our hollow fiber polyethylene membrane produces purified water by treating wastewater to allow it to be reused. In addition, it is manufactured through a unique melt spinning and drawing process that does not discharge any solvents.



Products/Model :
Sterapore SUR234, SUN10534

Eco-components No.0078

Machine Parts

Filtration Equipment for Clarifying

High-speed filtration equipment for clarifying, "Marimo"

Unitika Ltd.

Osaka Center Bldg., 4-1-3, Kyutaro-cho, Chuo-ku, Osaka-shi, Osaka 541-8566, Japan

Tel; 06-6281-5247 Fax;

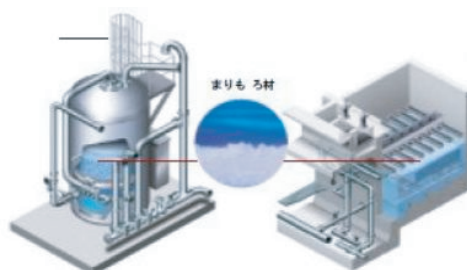
E-mail;

URL; <http://www.unitika.co.jp/business/home.htm>

Category:

- B4. Higher Quality
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

High-speed filtration equipment for clarifying, "Marimo" uses special fiber as filter medium. Its filtration speed is five times faster than conventional sand filtration. Treatment efficiency is also advanced. Reverse washing can be implemented easily with this product. It is widely used for drainage tertiary treatment, reuse of drainage, filtration of industrial water, and pretreatment of water reuse.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0079

Machine Parts

Toner

Recycled toner

Otsuka Corporation

2-18-4, Idabashi, Chiyoda-ku, Tokyo 102-8573, Japan

Tel; 03-3514-7130 Fax; 03-3514-7128

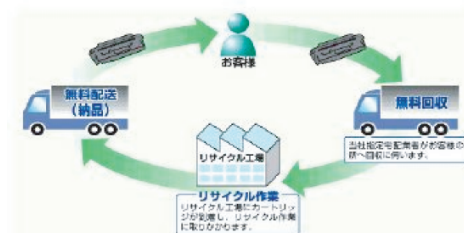
E-mail;

URL; <http://www.otsuka-shokai.co.jp/eco/2003/index.html>

Category:

- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C6. End-of-Life

It is a recycled toner. The toner cartridge of printer used in office is reclaimed and recycled. We complete user-friendly recycle that the cartridge reclaimed from company A is returned to company A following recycling



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0080

Machine Parts

Mechanical Module for Car Audio

Mechanical Module for Car Audio to improve fuel economy

Clarion Co., Ltd.

50 Kamitoda, Toda-shi, Saitama 335-8511 Japan

Tel; 048-443-0628 Fax; 048-443-0792

E-mail; Katsumi_Onuma@clarion.co.jp

URL; <http://www.clarion.co.jp>

Category:

- A1. Global Warming
- A2. Air Pollution
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving

By reducing the weight of car audio devices, we aim to improve a car's running condition and fuel costs, and consequently reduce CO₂ emission. Our 1DINCD series features mechanical modules that weigh 10% less than similar modules produced a year earlier. In GS-1 series, a single mechanical module offers a weight saving of 47% compared with current status.



Products/Model :
Mechanical Module for CarAudio

Eco-components No.0081

Automobile Parts

Car Engine

Fuel-efficient DVVT twin cam engine for small cars

DAIHATSU MOTOR CO., LTD.

1-1 Daihatsu-cho, Ikeda-City, Osaka 563-8651 Japan

Tel; 072-754-3348 Fax; 072-754-3347

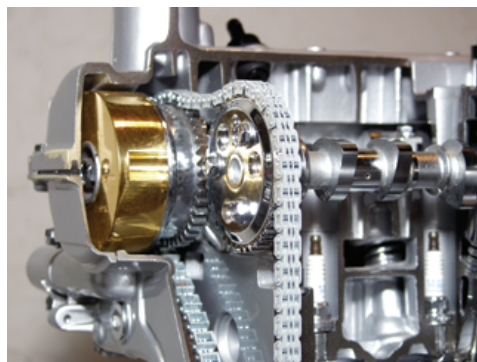
E-mail; environmental_dep@mail.daihatsu.co.jp

URL; <http://www.daihatsu.co.jp>

Category:

- A1. Global Warming
- A2. Air Pollution
- B3. Resource Saving
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair

Daihatsu has developed a fuel-efficient engine to contribute to the conservation of global resources. This twin cam engine is equipped with DVVT (Dynamic Variable Valve Timing), in which a computer optimizes the valve timing according to the data on engine revolutions and how far the accelerator pedal is depressed. By using DVVT, the engine achieves both low fuel consumption and high torque.



Products/Model :
EF-VE

Eco-components No.0082

Automobile Parts

Gasoline direct injection components

Gasoline direct injection for gasoline engines to improve fuel consumption

DENSO CORPORATION

1-1, Showa-cho, Kariya, Aichi 448-8661 Japan

Tel; 0566-25-5733 Fax; 0566-25-4525

E-mail; kankyo@she.denso.co.jp

URL; <http://www.denso.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- C5. Product Use, Maintenance and Repair

Conventional engines supply fuel by injecting gasoline into a suction port. However, this direct injection engine permits direct injection of gasoline into the combustion chamber, achieving lean-burn in a wide range of drive, and improving fuel efficiency. In order to achieve this, we developed components such as a high-pressure injector and high-pressure pump, which are mounted directly on engine.



Products/Model :
Gasoline direct injection components

Eco-components No.0083

Carriers / Automobiles

Car Diesel engine

Low fuel consumption common rail diesel engine

Toyota Motor Corporation

1, Toyota-cho, Toyota-shi, Aichi, 471-8571 Japan

Tel; 0565-23-1572 Fax; 0565-23-1589

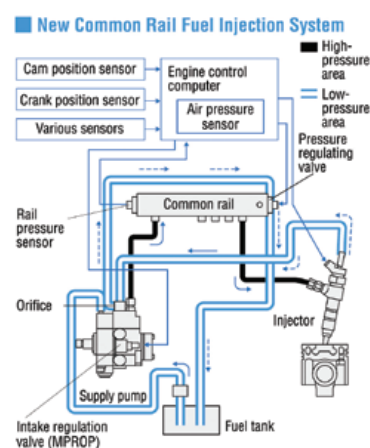
E-mail; hiromasa_hino@mail.toyota.co.jp

URL; <http://www.toyota.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The common rail fuel injection system ensures stable fuel injection pressure even at low gear without any effect on the engine. This is due to the storage of high pressure fuel produced with a pump within common rail. The direct-injection diesel engine achieves low fuel consumption and features a turbocharger with intercooler.



Products/Model :

Common rail fuel injection system

Eco-components No.0084

Automobile Parts

Engine

RENESIS: New generation rotary engine, clean flue gas, fuel economy

Mazda Motor Corporation

3-1, Shinchu, Huchu-cho, Aki-gun, Hiroshima 730-8670, Japan

Tel; 082-286-5744 Fax;

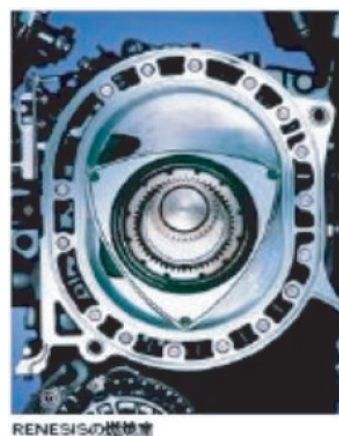
E-mail;

URL; <http://customer.mazda.co.jp/inquiry.html>

Category:

- A1. Global Warming
- A2. Air Pollution
- B5. Energy Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

A rotary engine "RENESIS" realized clean exhaust gas and fuel economy through the introduction of a side exhaust system. In particular, contaminant in flue gas was reduced to about 1/10 of conventional contaminant.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0085

Automobile Parts

Pre-Catalyst

Metal pre-catalyst for car: Purified exhaust gas, easy installation

Fuji Heavy Industries Ltd.

1-7-2 Nishishinjuku, Shinjuku-ku, Tokyo Japan

Tel; 03-3347-2111 Fax;

E-mail;

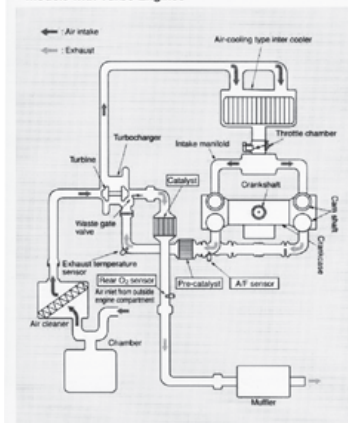
URL; <http://www.fhi.co.jp/index.html>

Category:

- A2. Air Pollution
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

A pre-catalyst is installed in the upper flow of the turbocharger and the exhaust flows into the catalyst without cooling the gas temperature. This process allows the catalyst to operate immediately after the engine is started, while also working with another catalyst in the lower flow of the turbocharger to raise total purification function.

◆ Adopting a Pre-Catalyst: Exhaust Countermeasure for Models with Turbo Engines



Products/Model :
Subaru 「Impreza」

Eco-components No.0086

Automobile Parts

Diesel Particulate Filter (DPF)

Ceramic filter for purifying exhaust gases from diesel-powered vehicles

NGK Insulators, Ltd.

2-56 Suda-cho, Mizuho, Nagoya, 467-8530 Japan

Tel; 052-872-7181 Fax; 052-872-7690

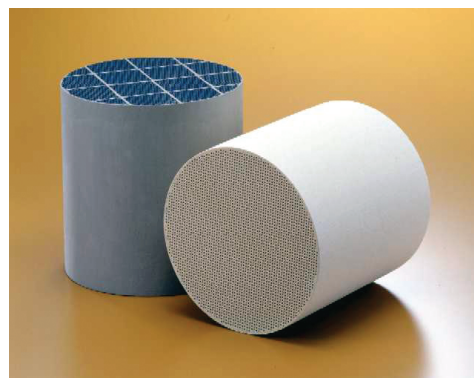
E-mail; pr-office@ngk.co.jp

URL; <http://www.ngk.co.jp/>

Category:

- A2. Air Pollution
- B2. Longevity
- B4. Higher Quality
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

The Diesel Particulate Filter (DPF) eliminates the particulate matter (PM) in exhaust gas from diesel-powered vehicles. By plugging alternate honeycomb cells at each end, their porous ceramic walls filter out 90% or more of the PM in exhaust gas. The DPF is regenerated by treatment of accumulated PM by heat, etc.



Products/Model :
Diesel Particulate Filter (DPF)

Eco-components No.0087

Automobile Parts

Intake Module

Intake module: Weight reduction, increased gas mileage

Aisan Industry Co., Ltd.

1-1-1, Kyowa-cho, Obu, Aichi 474-8588, Japan

Tel; 0562-47-1131 Fax;

E-mail;

URL; <http://www.aisan-ind.co.jp/>

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The product realized its weight reduction by combining parts into modules, in order to improve fuel efficiency of a car. The incorporation of an electronic throttle into a resin intake manifold increased its capability and substantially reduced its weight.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0088

Automobile Parts

Car air conditioning

Eco-friendly Freon-free car air conditioning

DENSO CORPORATION

1-1, Showa-cho, Kariya, Aichi 448-8661 Japan

Tel; 0566-25-5733 Fax; 0566-25-4525

E-mail; kankyo@she.denso.co.jp

URL; <http://www.denso.co.jp>

Category:

- A1. Global Warming
- B1. Recyclability
- B5. Energy Saving
- C6. End-of-Life

This car air conditioning does not use chlorofluorocarbon for refrigerant. Traditionally, this type of product has used HFC-134a, which has a significant effect on global warming. However, we developed a novel air conditioner system using CO₂ by employing higher pressure for the refrigerating cycle. It was installed in Toyota's FCHV fuel cell hybrid car in December, 2002.



Products/Model :

CO₂ car air conditioner

Eco-components No.0089

Automobile Parts

Compressor

Exterior control compressor: power-saving, stabilization of rpm control, prevention of dry air

Calsonic Kansei Corporation

5-24-15, Minamidai, Nakano-ku, Tokyo 164-8602, Japan

Tel; 03-5385-0178 Fax;

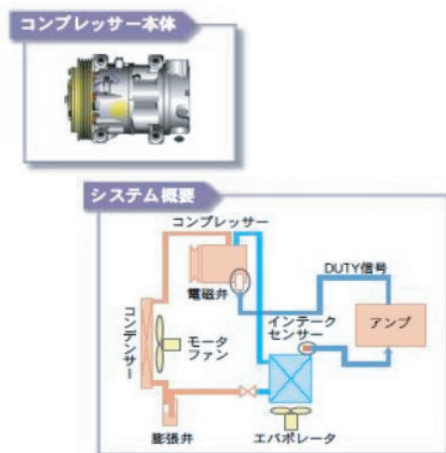
E-mail;

URL; <http://www.calsonickansei.co.jp/>

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This exterior control compressor accomplished “prevention of excessive drying of air in the car,” “reduction of engine’s wasteful operation (power-saving)” and “stabilization of rpm control at idling” by controlling the discharge of refrigerants from the compressor according to exterior temperature and humidity and in-car set temperature with exterior electric signals.



※ Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0090

Automobile Parts

Air conditioning system

Air condition unit: Energy-saving, compact, increased fuel efficiency

Keihin Corporation

1-26-2, Nishi-shinjuku, Shinjuku-ku, Tokyo 163-0539, Japan

Tel; 03-3345-3411 Fax; 03-3345-3414

E-mail;

URL; <http://www.keihin-corp.co.jp/>

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

Cooling and heating parts are integrated in a more efficient and compact manner (a three-split was unified) to save energy and space of an air conditioning unit (HVAC). This system increases fuel efficiency.



※ Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0091

Automobile Parts

Car air conditioning system

Eco-friendly car air conditioning system with natural refrigerant (CO₂)

Mitsubishi Heavy Industries Ltd.

3-1 Asahimachi Nishibiwajima-cho Nishikasugai-gun, Aichi-pref,
452-8561 Japan

Tel; 052-504-9815 Fax; 052-503-2638

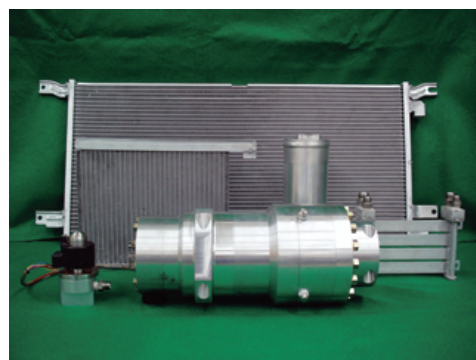
E-mail;

URL; <http://www.mhi.co.jp>

Category:

- A1. Global Warming
- B5. Energy Saving
- C4. Product Manufacture

We have developed an environmentally-friendly car air conditioning system using natural refrigerant (CO₂) which does not damage the ozone layer and has little effect on global warming. In addition, it achieves higher performance than a system using Freon gas (HFC-134a). We have already developed a full-size working model and are planning to market the system in the near future.



Eco-components No.0092

Automobile parts

Copper Tubing

Multi-grooved copper tubing for cooling units using CFC substitutes

The Furukawa Electric Co., Ltd.

6-1, Marunouchi 2-chome, Chiyoda-ku, Tokyo, 100-8322 Japan

Tel; Fax;

E-mail; r-d@ho.furukawa.co.jp

URL; <http://www.furukawa.co.jp>

Category:

- A1. Global Warming
- B5. Energy Saving
- B6. Environmental Purification
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

These heat exchange copper tubes are for use with CFC-substitute refrigerants to reduce ozone-layer depletion. They reduce oil residues in the tube's inner surface and are internally multi-grooved to improve heat exchanging performance.



Products/Model :

Copper Tube for Use with CFC-Substitutes ·
"Furukawa SuperClean Tube",
Furukawa Multi-Grooved Tube "FMGT"

Eco-components No.0093

Automobile Parts

Ultra-light Hub Bearing

Ultra-light 3rd generation hub bearing: Low gas mileage, energy saving

NTN Corporation

1-3-17 Kyomachibori, Nishi-ku, Osaka, 550-0003 Japan

Tel; 06-6443-5001 Fax;

E-mail;

URL; <http://www.ntn.co.jp/>

Category:

- A5. Resource Consumption
- B3. Resource Saving
- C5. Product Use, Maintenance and Repair

A hub bearing is used to support a car's wheel shaft. We developed the lightest 3rd generation hub bearing in the world for minicars to improve fuel consumption. By optimizing the shape of the hub bearing, we reduced its weight to 1kg (around 30% less than conventional products), and achieved better power fuel consumption as well as resource savings. In addition, the use of high-efficiency long life grease in the bearing significantly increases bearing life.



Products/Model :

Super light-weight GEN3 HUB Bearing

Eco-components No.0094

Automobile Parts

Power Seat Switch

Car power seat switch: Wire reduction by IR communication

Tokai Rika Co., Ltd.

3-260 Toyota, Oguchi-cho, Niwa-gun, Aichi, 480-0195 Japan

Tel; 0587-95-5211 Fax;

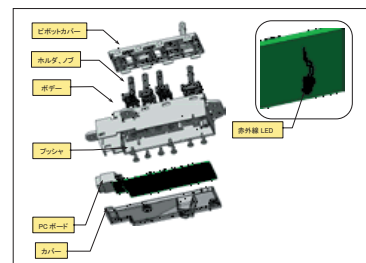
E-mail;

URL; <http://www.tokai-rika.co.jp/>

Category:

- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

A wireless power seat switch for memorizing and adjusting a car seat position has reduced the number of wires required from 10 down to three. Furthermore, combining it with a tactile switch has reduced the weight of the switch. This wireless system allows a switch (transmitting) to communicate with a circuit (receiving) using infrared radiation.



図名 (日本語:英語)

フロントカバー: Front cover
ホルダ、ノブ: Holder, Knob
ボディ: Body
プッシャー: Pusher
P.C.ボード: PC board
カバー: cover
赤外線 LED: Infrared LED
タクトスイッチ: tact switch

Products/Model :

Wireless Power Seat Switch

Eco-components No.0095

Automobile Parts

Car hood

Integrally molded CFRP car hood

Toray Industries, Inc.

Toray Bldg., 2-1, Nihonbashi-Muromachi 2-chome, Chuo-ku, Tokyo,
103-8666 Japan

Tel; 03-3245-5179 Fax; 03-3245-5459

E-mail;

URL; <http://www.toray.co.jp>

Category:

- B2. Longevity
- B5. Energy Saving

Torayca*, a light and strong carbon fiber made by Toray, is used for the integrally molded CFRP (carbon fiber reinforced plastics) hood of Nissan Motor Co., Ltd. Skyline GT-R model. The weight saving achieved by Torayca* helps conserve energy and increase transportation efficiency, thus reducing the environmental load. Torayca's* durability and corrosion resistance also helps to reduce waste. Other automobile manufacturers have also begun studying the possibility of applying CFRP to their products.



Eco-components No.0096

Automobile Parts

Constant Velocity Joints, E-series

Constant velocity joints for drive shaft: Lightweight, compact, high efficiency

NTN Corporation

1-3-17 Kyomachibori, Nishi-ku, Osaka, 550-0003 Japan

Tel; 06-6443-5001 Fax;

E-mail;

URL; <http://www.ntn.co.jp/>

Category:

- A5. Resource Consumption
- B3. Resource Saving
- C5. Product Use, Maintenance and Repair

Constant velocity joints are used to smoothly transmit engine torque to tires. We developed E-series constant velocity joints to be highly efficient while smaller and lighter. Traditionally, six balls were used for the joints, but this system uses eight balls. These products provide high levels of functionality and environmental solutions by offering reduced weight, compactness, and high transmission efficiency. And also to reduce environmental impact, lead-free grease is used.



Products/Model :

Constant velocity joints, E-series

Eco-components No.0097

Automobile Parts

Power steering motor

Power steering motor: Motorization, weight reduction, increased fuel efficiency

Mitsuba Corporation

598, Minegishi, No, Niisato-mura, Seta-gun, Gunma 376-0122, Japan

Tel; 0277-52-0111 Fax; 0277-52-5160

E-mail;

URL; <http://www.mitsuba.co.jp/>

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

A power steering system, hydraulic type being traditionally engine-driven was successfully motorized. An iron yoke aluminum casting technology reduced the weight by 12%, contributing to improved fuel efficiency.



※ Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0098

Automobile Parts

Material for belt

Material for CVT (continuously variable transmission) belt

Neomax Co., Ltd

Sumitomo building, 4-7-19, Kitahama, Chuo-ku, Osaka

541-0041, Japan

Tel; 06-620-8822 Fax; 06-6220-8909

E-mail;

URL; <http://www.neomax.co.jp/index.html>

Category:

- A1. Global Warming
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

It is a material for CVT (continuously variable transmission) belt. The fuel consumption is improved by scaling of V pulley groove width, permitting continuously variable transmission and thus constantly operating an engine at an optimum number of revolutions. It is also advantageous to hydraulic AT with no oil circulation loss. Since the service condition of the metal belt used for CVT is severe, the special high alloy with high cleanliness is specially heat-treated and manufactured through high-precision processing.



※ Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0099

Automobile Parts

Tire

“DNA Ecos,” tire for car

The Yokohama Rubber Co., Ltd.

5-36-11, Shinbashi, Minato-ku, Tokyo 105-8685, Japan

Tel; 03-5400-4531 Fax;

E-mail;

URL; <http://www.yrc-pressroom.jp/env/>

Category:

- A1. Global Warming
- B2. Longevity
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The most hindering element of car drive is air resistance, the second is “rolling resistance” of the tire. It is the adverse force to travelling direction which functions when tires roll on road surface. The decrease of it leads to improvement of fuel consumption, hence the reduction of carbon dioxide generation rate. “DNA Ecos” is the tire for car which adopts “incorporated rubber (patent taken),” the compound containing silica which decreases “rolling resistance.”



ころがり抵抗 約14%
低減
従来品A200対比

試験条件
タイヤサイズ:195/65R15 91S
リムサイズ:15×6JJ
空気圧:200kPa
テスト車両:トヨタマークII
乗車人数:1名
テスト場所:横浜ゴムテストコース
路面:アスファルト

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0100

Automobile Parts

Tire

Digi-tire Eco

Sumitomo Rubber Industries, Ltd.

6-9, Wakihamacho, 3-chome, Chuo-ku, Kobe-shi, Hyogo

651-0072, Japan

Tel; 078-265-3000 Fax;

E-mail;

URL; <http://www.srigroup.co.jp/ecopedia/index.html>

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- C1. Material Extraction
- C5. Product Use, Maintenance and Repair

With reference to summer tire for car, making synthetic rubber in heavy usage as raw material has prevailed. As to “SP 65e”, “SP70e”, the natural rubber is used for tread at the rate of 20%, contributing drastically to oil-resource-saving. In addition, the natural rubber is superior to synthetic rubber in fuel-consumption or life. The drawback of grip force or wet performance is overcome by digi-tire technology, allowing compatibility of safety and excellent fuel-consumption / life. It is a resource-saving tire for 21st century.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0101

Automobile Parts

Tire

Retreaded tire

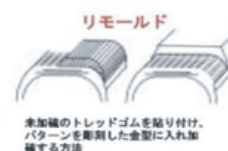
Sumitomo Rubber Industries, Ltd.

6-9, Wakihamacho, 3-chome, Chuo-ku, Kobe-shi, Hyogo
651-0072, Japan
Tel; 078-265-3000 Fax;
E-mail;
URL; <http://www.srigroup.co.jp/ecopedia/index.html>

Category:

- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- B5. Energy Saving
- C6. End-of-Life

As an efficient utilization of skyrocketing number of used tire, the tires whose tread is abraded have been retreaded. Solely the installation parts are replaced. The retreaded tires which are revived under an excellent revival technology and thorough quality control meet a wide range of needs from long-haul truck, bus, down to construction vehicle, excel in economical efficiency, administering to recycle.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0102

Automobile Parts

Hub Unit

Lightweight low torque hub unit

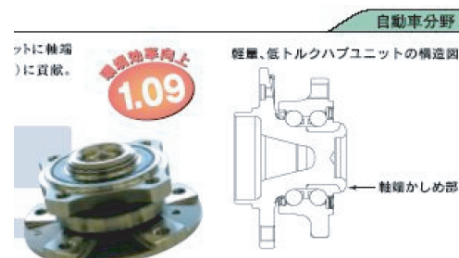
Koyo Seiko Co., Ltd.

24-1, Kokubuhigashijo-cho, Kashiwabara-shi, Osaka 582-8588, Japan
Tel; 0729-77-1119 Fax;
E-mail;
URL; <http://www.koyo-seiko.co.jp/japanese/>

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

We employed an end caulking for this third generation hub unit used in car wheels and realized lighter weight and smaller size (axial reduction in size). Lower torque was also obtained by improving internal design, which is beneficial to energy saving.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0103

Automobile Parts

Coil Spring

Car coned coil spring: Elimination of cuttings, reduction of industrial waste

NHK Spring Co., Ltd.

3-10, Hukuura, Kanazawa-ku, Yokohama-shi, Kanagawa
236-0004, Japan

Tel; 045-786-7511 Fax; 045-786-7599

E-mail;

URL; <http://www.nhkspg.co.jp/>

Category:

- A5. Resource Consumption
- B3. Resource Saving
- B7. Usage of Recycled Material
- C2. Material and Components Production

Materials for car coned coil spring have a thick center part in a longitudinal direction and thinner ends that were taper processed. Traditionally, chippings were generated from cutting. But, a method for rolling and processing these materials eliminated cuttings and reduced industrial waste.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0104

Automobile Parts

Battery

Automobile lead storage battery: Recyclable resins, earthquake and heat resisting

YUASA Corporation

2-3-21, Kosobe-cho, Takatsuki-shi, Osaka 569-1115, Japan

Tel; 072-686-6181 Fax; 072-686-6345

E-mail;

URL; <http://www.yuasa-jpn.co.jp/menuhp.html>

Category:

- A3. Hazardous Substance
- B2. Longevity
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

This is an automobile lead storage battery containing recyclable resins. Recyclable polypropylene resins are used in the battery body and package. The introduction of firm and heat-resisting special calcium alloy plate and aseismicity design enables long time high performance.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0105

Automobile Parts

Battery

Battery for environment-friendly car with high performance

Japan Storage Battery Co., Ltd.

1, Inobana-cho, Nishinosho, Kisshoin, Minami-ku, Kyoto-shi, Kyoto
601-8520, Japan
Tel; 075-316-3127 Fax;
E-mail;
URL; <http://www.nippondenchi.co.jp/npd/toi/toi.html>

Category:

- A3. Hazardous Substance
- A4. Waste
- B1. Recyclability
- B3. Resource Saving
- B7. Usage of Recycled Material

It is "battery for environment-friendly car with high performance," with the use of recycled member and orchestrated superb technology. It uses recycled lead for lead member, recycled resin (polypropylene 100%) for resin section (battery case / lid / liquid stopper), respectively, each of them materializing the equal quality to non-recycled resin.

JAPAN STORAGE BATTERY CO., LTD. has furthermore materialized the product warranty of 24months / 40,000km through adoption of newly developed FM grid and the surface treatment of the special alloy.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0106

Automobile Parts

Aluminum Caliper

Rear aluminum caliper: Designed for automobile brake, fuel economy

Tokico Ltd.

1-6-3, Fujimi, Kawasaki-ku, Kawasaki-shi, Kanagawa 210-0011, Japan
Tel; 044-244-3126 Fax; 044-244-7301
E-mail;
URL; <http://www.tokico.co.jp/>

Category:

- A3. Hazardous Substance
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

Aluminum was used in a cylinder body of a rear caliper for automobile brake. The use of aluminum reduced its weight by about 10.3% while reduced sliding resistance of a friction pad increased gas mileage. The elimination of chromate treatment for aluminum reduced the usage of hexavalent chromium.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0107

Automobile Parts

Canister

Canister: Prevention of release of gasoline steam, improved absorption

Aisin Industry Co., Ltd.

1-1-1, Kyowa-cho, Obu, Aichi 474-8588, Japan

Tel; 0562-47-1131 Fax;

E-mail;

URL; <http://www.aisin-ind.co.jp/>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

This is a canister that prevents the release of gasoline steam. The product prevents gasoline steam from releasing in air from a gasoline tank opening. The canister absorbs more gasoline steam than conventional products.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0108

Automobile Parts

Lens

Headlamp resin lens: Heat and shock resistance, reduction of resin waste and materials

Koito Manufacturing Co., Ltd.

Kitawaki 500, Shimizu-shi, Shizuoka 424-8765, Japan

Tel; 03-3443-7111 Fax;

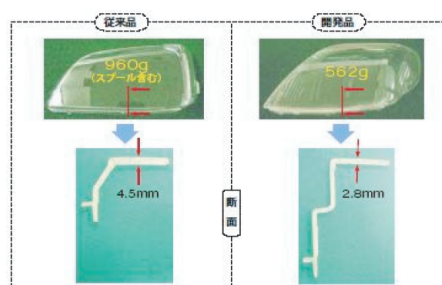
E-mail;

URL; http://www.koito.co.jp/f_index.html

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

Due to upsizing, increased transparency and thickness of a car headlamp resin lens, the usage of resin materials for the lens is increasing while more energy is being consumed with increasing molding time. New resin materials and a molding technology were developed that ensures shock and heat resistance of resin lens while reducing a molding time and making its wall thinner than conventional products. This reduced the usage of materials and the consumption of energy while enhancing the fuel efficiency of cars with the weight reduction of a headlamp. Furthermore, an improved injection method in a molding process reduced the amount of resin waste.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0109

Automobile Parts

Headlamp

Discharge headlamp: Low power consumption, increased gas mileage, long life

Koito Manufacturing Co., Ltd.

Kitawaki 500, Shimizu-shi, Shizuoka 424-8765, Japan

Tel; 03-3443-7111 Fax;

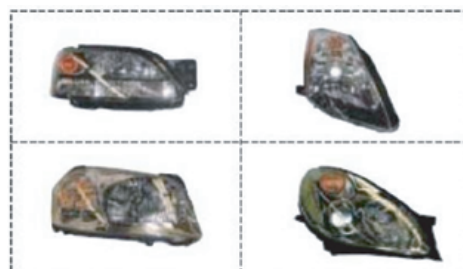
E-mail;

URL; http://www.koito.co.jp/f_index.html

Category:

- A1. Global Warming
- B2. Longevity
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

With an increasingly electrified automobile and increased power consumption parts, it has been required to reduce power consumption of individual systems. The discharge headlamp is about 2 to 3 times as bright as conventional halogen headlamps and consumes power about 2/3 less than the headlamps. The mounting of the discharge headlamp leads to 0.5~1% increase of automobile fuel efficiency. A discharge bulb, a light source realizes long life of a halogen bulb.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-components No.0110

Packaging

Drugs

Health drink with improved recyclability through bottle shift to brown-glass-bottles

Taisho Pharmaceutical Co., Ltd.

24-1, Takada 3-chome, Toshima-ku, Tokyo 170-8633, Japan

Tel; 03-3985-1111 Fax;

E-mail;

URL; <http://www.taisho.co.jp>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B3. Resource Saving
- C1. Material Extraction
- C3. Design and Material Selection

The green bottles and black bottles, which have been used for some of health drinks, is difficult to be recycled as bottles. In consequence, Taisho Pharmaceutical Co., Ltd. shifted to easy-to-recycle brown bottles in order to promote recycle from bottle to bottle, designing decrease of the need for the raw material of bottle (resource-saving).



Eco-components No.0111

Packaging

Cosmetics

Environmentally friendly cosmetics for naturalist

SHISEIDO CO., LTD.

7-5-5, Ginza, Chuo-ku, Tokyo 104-0061 Japan

Tel; 03-3572-1111 Fax; 03-6218-5119

E-mail; ataru.iwamoto@to.shiseido.co.jp

URL; <http://www.shiseido.co.jp>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B3. Resource Saving
- B7. Usage of Recycled Material
- C1. Material Extraction

Naturals uses an environment-friendly container as much as possible. The glass with high cullet rate is used for the glass container, recycled resin for the tube, biodegradable resin (green plastic) for the cap, kenaf of non-wood paper for the paper case and recycled paper for the package leaflet.



Products/Model :
Naturals

Eco-components No.0112

Packaging

Cosmetics (lipstick)

Lipstick for 20's capable of realizing moisture on lips

SHISEIDO CO., LTD.

7-5-5, Ginza, Chuo-ku, Tokyo 104-0061 Japan

Tel; 03-3572-1111 Fax; 03-6218-5119

E-mail; ataru.iwamoto@to.shiseido.co.jp

URL; <http://www.shiseido.co.jp>

Category:

- A1. Global Warming
- B1. Recyclability
- B3. Resource Saving
- B7. Usage of Recycled Material
- C2. Material and Components Production

We used reclaimed aluminium for its container in a positive manner.



Products/Model :
PIEDSNUS LIPSTICK

Eco-components No.0113

Packaging

Foundation (foundation cosmetics)

Foundation cosmetics for naturalist regarding waste and resource consumption

SHISEIDO CO., LTD.

7-5-5, Ginza, Chuo-ku, Tokyo 104-0061 Japan

Tel; 03-3572-1111 Fax; 03-6218-5119

E-mail; ataru.iwamoto@to.shiseido.co.jp

URL; <http://www.shiseido.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- C1. Material Extraction
- C6. End-of-Life

We have succeeded in subtilization of the thickness of the resin cover sheet used for the foundation refill from 0.4mm to 0.3mm. We thus have substantially decreased the used amount of resin.



Products/Model :

ELIXIR skin up pockt (refin)

Eco-components No.0114

Packaging

Sun Block

Sunscreen products designed with resource consumption and waste in mind

SHISEIDO CO., LTD.

7-5-5, Ginza, Chuo-ku, Tokyo 104-0061 Japan

Tel; 03-3572-1111 Fax; 03-6218-5119

E-mail; ataru.iwamoto@to.shiseido.co.jp

URL; <http://www.shiseido.co.jp>

Category:

- A1. Global Warming
- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C6. End- of- Life

We applied both recycled resin and biodegradable resin for the product's package. Additionally, we used reclaimed material for its container in a positive manner.



Products/Model :

ANESSA face sun screen

Eco-components No.0115

Packaging

Thermoforming Sheet

Polypropylene-based composite sheet for food container with reduced environmental load

Japan Polypropylene Corporation

33-8, Shiba 5-chome, Minato-ku, Tokyo 108-0014 Japan

Tel; 03-6414-4557 Fax;

E-mail;

URL; <http://www.film-sheet.com/>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality
- C3. Design and Material Selection

“Ecolo-sheet”, which is a composite resin sheet consisting of polypropylene and mineral filler, talc, has characteristics of significantly reduced combustion carorie and CO₂ emission when incinerated after use. Food container made from “Ecolo-sheet” by means of thermoforming is excellent in terms of rigidity, intensity such as impact strength, microwave-oven heat resistance, and safety. Especially, Ex-type is designed to make the medium layer a foam layer so as to have lower specific gravity without spoiling the quality as a filler compound sheet, exceeding conventional filler compound sheets in weight.



Products/Model :

Ecolo-sheet • F-, K-, EX- type

Eco-components No.0116

Packaging

Cap

Environmentally oriented container for general users featuring disposal by material

Kikkoman Corporation

250, Noda, Noda-shi, Chiba 278-8601 Japan

Tel; 04-7123-5111 Fax;

E-mail;

URL; <http://www.kikkoman.co.jp/>

Category:

- A4. Waste
- B1. Recyclability
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

With this product, the PET bottle and its cap can be separated and disposed by end users, with no separation work of the bottle and the cap required by governments or recycling manufactures, thus further promoting classified disposal.



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キッコーマン・新エコキャップ・1L

Products/Model :

Eco-Cap

Eco-components No.0117

Packaging

Packing Material

“Diet Puti”, bubble-embedded shock-absorbing sheet for packing

Kawakami Sangyou Co., Ltd.

2-50 Sennari-dori, Nakamura-ku, Nagoya 483-1031 Japan

Tel; 052-483-1031 Fax: 052-483-3351

E-mail; h_maeda@putiputi.co.jp

URL; <http://www.putiputi.co.jp/>

Category:

- A1. Global Warming
- A4. Waste
- B3. Resource Saving
- B4. Higher Quality
- C3. Design and Material Selection

We succeeded in slimming down of the bubble-type shock-absorbing sheet for packing, with keeping its performance before slimming. “DIET PUTI” is the brand name of new product. A 20% decrease of raw-material consumption and a 20% decrease of volume were achieved owing to the slimming. Slimming brings out the lowering of distribution cost and the rationalization of distribution system as well as the reduction of wastes. Hence, it may contribute to suppress the environmental load. Raw material is a pure polyethylene resins which does not generate harmful substance such as hydrogen chloride and dioxin in its incineration.



Products/Model :

Diet Puti. b 36

Eco-components No.0118

Packaging

Medicines

Disposable Medicine Container for hospitals and drug stores

Shionogi & Co., Ltd.

1-8 Doshomachi, 3-chome, Chuo-ku, Osaka, 541-0045 Japan

Tel; 06-6209-7884 Fax; 06-6229-9596

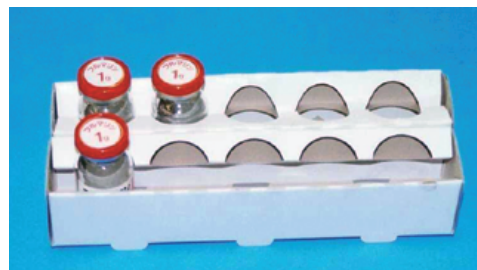
E-mail; toiwase@shionogi.co.jp

URL; <http://www.shionogi.co.jp/>

Category:

- A4. Waste
- A5. Resource Consumption
- B5. Energy Saving
- B7. Usage of Recycled Material
- C6. End-of-Life

Plastic trays were conventionally used for ampoules, vials and tubes containing medicines, but paper trays that are easily recyclable are now replacing these containers. The picture shows a paper tray designed to reduce shocks during transportation (preventing the breakage of vials) which was granted a “Good Packaging Award” by the Japan Packaging Institute.



Products/Model :

FLUMARIN

Eco-components No.0119

Packaging

Drugs

Resource-saving drugs with recycled-paper (used-paper content: 100%) for paper container

Taisho Pharmaceutical Co., Ltd.

24-1, Takada 3-chome, Toshima-ku, Tokyo 170-8633, Japan

Tel; 03-3985-1111 Fax;

E-mail;

URL; <http://www.taisho.co.jp>

Category:

- A5. Resource Consumption
- B3. Resource Saving
- B7. Usage of Recycled Material
- C1. Material Extraction
- C3. Design and Material Selection

The quantity consumed of virgin pulp is reduced by the use of recycled paper with a 100% used paper content for the paper container (outer case to contain products) of the drugs, designing resource-saving.



Eco-components No.0120

Packaging

Drugs

Drugs with PTP-sheet material replaced from polyvinyl chloride with others (polypropylene, etc)

Taisho Pharmaceutical Co., Ltd.

24-1, Takada 3-chome, Toshima-ku, Tokyo 170-8633, Japan

Tel; 03-3985-1111 Fax;

E-mail;

URL; <http://www.taisho.co.jp>

Category:

- A3. Hazardous Substance
- A4. Waste
- B1. Recyclability
- C3. Design and Material Selection
- C6. End-of-Life

With reference to PTP wrapping, the mainstream of wrapping figuration of drugs, the material of sheet is shifted from polyvinyl chloride, which is in danger of generating dioxin on incineration, to the other material (polypropylene, etc.), reducing environment burden.



Eco-components No.0121

Packaging

Aluminum Can

ATULC can: Reduction of environmental loads, laminated with polyesterfilm

KIRIN Brewery Company Limited

10-1, Shinkawa 2-chome, Chuo-ku, Tokyo 104-8288 Japan

Tel; 03-5540-3411 Fax; 03-5540-3550

E-mail; sustainability@kirin.co.jp

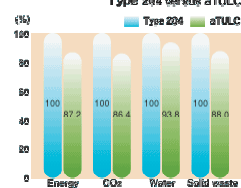
URL; <http://www.kirin.co.jp>

Category:

- A1. Global Warming
- B3. Resource Saving
- C3. Design and Material Selection

Laminating internal and external surfaces with polyesterfilm eliminated solid waste generated from a can molding process and cleaning water and reduced environmental loads. LCA evaluation: CO₂ 14% reduction, water 6% reduction and solid waste 12% reduction. Toyo Seikan developed the product for beer cans while KIRIN Brewery commercialized it firstly in the world in 2002.

LCA Comparison
Type 284 versus aTULC



aTULC cans
used in
Gokunama
and
Namakuro

*aTULC (Aluminum Toyo Ultimate Can) was developed by Toyo Seikan Kaisha, Ltd. as aluminum cans for containing beer and low-malt beer, and commercialized for the first time in the world by Kirin Brewery.

Products/Model :

Gokunama, Lager Beer & others

Eco-components No.0122

Packaging

Glass Bottle

Beer glass bottle: Light-weight bottle coated with ceramics

KIRIN Brewery Company Limited

10-1, Shinkawa 2-chome, Chuo-ku, Tokyo 104-8288 Japan

Tel; 03-5540-3411 Fax; 03-5540-3550

E-mail; sustainability@kirin.co.jp

URL; <http://www.kirin.co.jp>

Category:

- A1. Global Warming
- B3. Resource Saving
- C3. Design and Material Selection

A ceramic-coated beer glass bottle offered its weight reduction of about 21%, in comparison with conventional large bottles. The weight of a traditional bottle is 605g while that of this new bottle is 475g. The ceramic-coated bottle has the same strength as conventional bottles and is more resistant to abrasion than the latter. The weight of the bottle per case (20 bottles) is 2.6kg lighter than that of the traditional bottles, which increases load-carrying capacity and transportation efficiency by 12%. The old bottles had been replaced with the new ones in sequence since 1993, and all bottles were replaced with the new ones on June 2003.



Products/Model :

Kirin Lager Beer 633 & others

Eco-components No.0123

Packaging

Tape reels

Resource saving packaging and container for Set Manufacturer

TDK Corporation

1-13-1, Nihonbashi, Chuo-ku, Tokyo 103-8272, Japan

Tel; 03-3278-5111 Fax; 03-5201-7110

E-mail; kankyo@mb1.tdk.co.jp

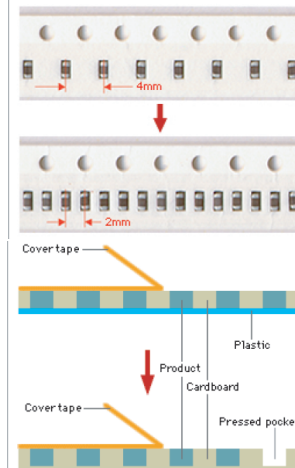
URL; <http://www.tdk.co.jp>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B3. Resource Saving
- C1. Material Extraction
- C2. Material and Components Production

TDK has scaled back the spacing between the reels used to carry its chip capacitors, reducing the intervals by half, so that reels having the same diameter as before can now hold three times as many capacitors.

Pockets have also been added to the cardboard on which the reels are mounted, making them independent from the bottom tape, and allowing the cardboard to be re-used.



Products/Model :

Narrow-pitch pressed pocket tape reels

Eco-components No.0124

Packaging

Corrugated Fibreboard Carton

Corner cut cartons: Eight dimension carton, more portable and easier handling

KIRIN Brewery Company Limited

10-1, Shinkawa 2-chome, Chuo-ku, Tokyo 104-8288 Japan

Tel; 03-5540-3411 Fax; 03-5540-3550

E-mail; sustainability@kirin.co.jp

URL; <http://www.kirin.co.jp>

Category:

- A4. Waste
- C6. End-of-Life

This is our own carton that is more portable and handled more easily by cutting four corners of a corrugated fibreboard carton and making the angels flat. The usage of paper was reduced by 2%. This carton was introduced into 350ml and 500ml cans for "KIRIN CHUHAI HYOKETSU" this spring. It will be now employed in 250ml, 350ml and 500ml cans for beer, low malt beer and soft drinks.



Products/Model :

Kirin hyoketsu lemon 350ml & others

Eco-components No.0125

Packaging

Seedling Container

Recyclable Kami-da seedling pots and trays for seedling producers and home gardeners

Sakata Seed Corporation

2-7-1, Nakamachidai, Tsuzuki-ku, Yokohama, 224-0041 Japan

Tel; 045-945-8806 Fax; 045-945-8807

E-mail; hortsupply@sakata-seed.co.jp

URL; <http://www.sakataseed.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C6. End-of-Life

These pots and trays for seedlings are made from 100% used paper. They can be buried, where they will decompose in the soil or be recycled again for paper. It is estimated that 25 million plastic seedling trays (about 100,000 tons) are disposed of each year. This product is eco-friendly, helping to reduce the amount of plastic trays and pots and contributing to recycling in the garden and in agriculture.



Products/Model :
Kami-da Pot, Kami-da Tray

Eco-components No.0126

Others

Ceramic Block

“Toraysurou”: ceramic paving material :Eco-friendly, water-permeable

Toray Industries, Inc.

Toray Bldg., 2-1, Nihonbashi-Muromachi 2-chome, Chuo-ku, Tokyo, 103-8666 Japan

Tel; 03-3245-5179 Fax; 03-3245-5459

E-mail;

URL; <http://www.toray.co.jp>

Category:

- A2. Air Pollution
- B1. Recyclability

Toraysurou* is an Eco Mark winning recycled building material made from municipal wastewater discharged from local communities and fused slag from sewage sludge. Thanks to its good water permeability, Toraysurou* paving material prevents puddles and flooding in cities, allowing rainwater to return to the ground. In addition, its water retention properties help to reduce the heat island effect in summer. A new type has recently been introduced that can decompose NOx in the atmosphere using a titanium oxide photocatalyst.



Eco-components No.0127

Others

Printing Ink

Eco-friendly sheet-fed offset printing ink containing soybean oil

TOYO INK MFG. CO., LTD.

3-13, Kyobashi 2-chome, Chuo-ku, Tokyo 104-8377 Japan

Tel; 03-3272-5720 Fax; 03-3272-9788

E-mail; master@toyoink.co.jp

URL; <http://www.toyoink.co.jp>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- A5. Resource Consumption
- B7. Usage of Recycled Material
- C3. Design and Material Selection

This is low pollution/low emission printing ink. Aromatic ingredients content in the ink is less than 11%, soy oil content is more than 20%, which doesn't deteriorate drying on print, still ensure printing of the same quality as regular ink.



Products/Model :
TK Hy-Unity SOY

Eco-components No.0128

Others

Printing Ink

Eco-friendly sheet-fed offset printing ink containing soybean oil and no VOC

TOYO INK MFG. CO., LTD.

3-13, Kyobashi 2-chome, Chuo-ku, Tokyo 104-8377 Japan

Tel; 03-3272-5720 Fax; 03-3272-9788

E-mail; master@toyoink.co.jp

URL; <http://www.toyoink.co.jp>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- A5. Resource Consumption
- B7. Usage of Recycled Material
- C3. Design and Material Selection

This is sheet-fed offset printing ink for thin paper with low pollution/emission, which doesn't contain any VOC (abbreviation of Volatile Organic Compound, petroleum solvent). It has good setting and drying properties equivalent to regular sheet-fed process ink. It acquired the "Soy Seal" issued by the ASA (American Soybean Association), which certifies that the ink contains soybean oil/soybean protein. Besides, vegetable oil replaced VOC in the ink, and aromatic capacity ratio in the ink was set at less than 1%.



Products/Model :
TK Hy-Ecoo NV

Eco-components No.0129

Others

Printing Ink

Web offset ink containing soybean oil and no aromatic solvent

TOYO INK MFG. CO., LTD.

3-13, Kyobashi 2-chome, Chuo-ku, Tokyo 104-8377 Japan

Tel; 03-3272-5720 Fax; 03-3272-9788

E-mail; master@toyoink.co.jp

URL; <http://www.toyoink.co.jp>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- A5. Resource Consumption
- B7. Usage of Recycled Material
- C3. Design and Material Selection

This is high-performance web offset process ink with low pollution/emission, containing soybean oil. It realized equivalent efficiency to conventional products without detriment to drying property. From the standpoint of environmental conservation, it uses only aroma-free solvent and soybean oil more than 7% of whole content. Aromatic capacity ratio is set at less than 1%.



Products/Model :
WD LeoEco SOY

Eco-components No.0130

Others

Printing Ink

Offset hybrid UV ink containing soybean oil with deinking properties

TOYO INK MFG. CO., LTD.

3-13, Kyobashi 2-chome, Chuo-ku, Tokyo 104-8377 Japan

Tel; 03-3272-5720 Fax; 03-3272-9788

E-mail; master@toyoink.co.jp

URL; <http://www.toyoink.co.jp>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- A5. Resource Consumption
- B7. Usage of Recycled Material
- C3. Design and Material Selection

This is the new generation printing ink combining the printing effect of oil ink and quick drying properties of UV ink, which enables to make out high-gloss print with high color rendition. It is eco-friendly low pollution/low emission type printing ink with deinking properties same as oil ink, certified with Soy Seal. Aromatic capacity ratio is set at less than 1% and VOC is 0%. The percentage of soybean oil contained in the ink is more than 7%.



Products/Model :
FD Hybrid Eco SOY

Eco-components No.0131

Others

Printing Ink

Eco-friendly general-purpose water based gravure printing ink for laminated films

TOYO INK MFG. CO., LTD.

3-13, Kyobashi 2-chome, Chuo-ku, Tokyo 104-8377 Japan

Tel; 03-3272-5720 Fax; 03-3272-9788

E-mail; master@toyoink.co.jp

URL; <http://www.toyoink.co.jp>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- A5. Resource Consumption
- B3. Resource Saving
- C3. Design and Material Selection

This is non-hazardous water based gravure printing ink with low pollution and low emission.

It is multi-purpose lamination ink applicable for wide range areas from snack to retort food. The percentage of VOC contained ink is set at less than 20%.



Eco-components No.0132

Others

Printing Ink

Eco-frienly water based gravure printing ink for polystyrene film

TOYO INK MFG. CO., LTD.

3-13, Kyobashi 2-chome, Chuo-ku, Tokyo 104-8377 Japan

Tel; 03-3272-5720 Fax; 03-3272-9788

E-mail; master@toyoink.co.jp

URL; <http://www.toyoink.co.jp>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- A5. Resource Consumption
- B3. Resource Saving
- C3. Design and Material Selection

This water based gravure printing ink is a non-hazardous ink with low pollution/emission. Among different applications, it is particularly suitable for printing on polystyrene shrink label for PET bottles. VOC(volatile organic compounds) content in the ink is set at less than 20%.



Eco-components No.0133

Others

Printing Ink

Eco-frienly water based flexographic printing ink for corrugated Boards

TOYO INK MFG. CO., LTD.

3-13, Kyobashi 2-chome, Chuo-ku, Tokyo 104-8377 Japan

Tel; 03-3272-5720 Fax; 03-3272-9788

E-mail; master@toyoink.co.jp

URL; <http://www.toyoink.co.jp>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- A5. Resource Consumption
- B3. Resource Saving
- C3. Design and Material Selection

100% water based flexographic ink with low pollution and low emission. This ink is for corrugated boards, designed to have low viscosity and high concentration. It is excellent at fast drying, decorative property, and printability. The percentage of VOC content in the ink is less than 5%.



Eco-components No.0134

Others

Inline Optical-Isolator

“Inline Isolator”, product for the conservation of the environment

NEC TOKIN Corporation

1-1, Asahi-Cho 7-Chome, Shiroishi, Miyagi 989-0223 Japan

Tel; 0224-24-4145 Fax; 0224-26-1655

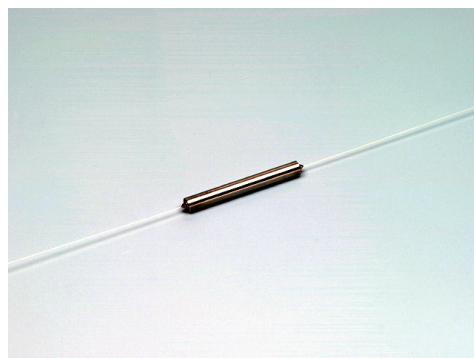
E-mail; mattk@nec-tokin.com

URL; <http://www.nec-tokin.com>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- B6. Environmental Purification
- C3. Design and Material Selection
- C4. Product Manufacture

By using lead-free solder. NEC TOKIN Corp. has developed an inline optical-isolator that is used as a passive part of the optical communication. That is an Eco-product made in consideration of the protection of the environment.



Products/Model :
IL-155-IW3028EH-110

3 Eco-products

- i Home electric appliances /Lightings
- ii Carriers / Automobiles
- iii OA / IT Equipments
- iv OA Furniture
- v Apparel / Fabric Products
- vi Commodity / Outdoor Goods / Housing Kit
- vii Building and Civil Engineering
- viii Machines and Equipments
- ix Others



Eco-products No.0001

Home electric appliances / Lightings

Household air conditioner

Energy-saving household air conditioner

Toshiba Carrier Corporation

12-32, Konan2-Chome, Minato-ku, Tokyo, 108-0075 Japan

Tel; 03-5781-7826 Fax; 03-5781-7852

E-mail; sato.haze@toshiba.co.jp

URL; <http://www.toshiba-carrier.co.jp>

Category:

- A1. Global Warming
- B1. Recyclability
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

A dual stage compressor achieves high efficiency operation at all capacities, such as compression of refrigerant by 1 cylinder at lower load and by 2 cylinders at mid load or higher.

This new model reduces power consumption by three quarters compared with models of 11 years ago*, when used in high air tight and insulated rooms. (*comparison of seasonal power consumption by our calculation standard).

In addition, the new model offers environmental benefits. It is lightweight and has improved failure rate of pressing material, description of material for plastic parts. Recycled plastics and papers are used for documentation and it has a lead-free PC board.



Products/Model :
room air conditioner RAS-285NDRX

Eco-products No.0002

Home electric appliances / Lightings

Household Air Conditioner

Energy-saving air conditioner for residential use

Toshiba Carrier Corporation

South Port Shinagawa, 12-32, Konan 2-chome, Minato-ku, Tokyo, 108-0075 Japan

Tel; 03-5781-7800 Fax; 03-5781-7842

E-mail;

URL; <http://www.toshiba-carrier.co.jp/>

Category:

- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

Recently, room air conditioners tend to be used for long term in a year and for lower cooling/heating load term such as spring or autumn. One of the reasons of such kind of situation occurrence is the popularization of electrified housing with higher airtightness and higher heat insulation.

The dual stage compressor has been developed as the engine of this product to enhance energy saving in response to increasing use in the low capacity load zone. Much improved energy efficiency was achieved by switching the number of cylinder of compressor from two to one in operation on low cooling/heating load. By employing different energy-saving technologies, we have achieved 6.27 COP (10% improved) and 891kWh (8.3% improved) for annual power consumption.



Products/Model :
DAISEIKAI series RAS-285NDR

Eco-products No.0003

Home electric appliances / Lightings

Air Conditioner

Residential air conditioner featuring ion air purification technology

SHARP CORPORATION

22-22, Nagaike-cho, Abeno-ku, Osaka, 545-8522 Japan

Tel; 06-6621-1221 Fax; 06-6628-1653

E-mail;

URL; <http://www.sharp.co.jp>

Category:

- B1. Recyclability
- B2. Longevity
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving

The use of "Plasmacluster Ion air purification technology" helps to inactivate fungus and airborne viruses.

<Energy saving> One of the best energy saving scores in the industry (COP 3.85), energy saving ratio (121%) and the lowest stand-by power consumption (about 0.5W).

<Green materials> The main board uses lead-free solder. The instruction manual has been printed using recycled paper and soy ink. Packaging material for an indoor unit uses only cardboard.

<Recycling> Waste plastic (polypropylene) has been recycled for components of the indoor unit.

(COP is an acronym for The Coefficient of Performance.) It represents cooling and heating capacity (kw) per 1kw power consumption. The higher the COP value, the greater the energy efficiency.



Products/Model :

Air Conditioner AY-R45XC

Eco-products No.0004

Home electric appliances / Lightings

Air Conditioner

High performance, energy-saving Air Conditioner

DAIKIN INDUSTRIES, LTD.

Umeda Center Building, 4-12 Nakazaki-Nishi 2-chome, Kitaku, Osaka 530-8323

Tel; 06-6373-4395 Fax; 06-6373-4386

E-mail;

URL; <http://www.daikin.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B1. Recyclability
- B4. Higher Quality
- B5. Energy Saving

Daikin's air-conditioning business is closely involved in takes into account the ozone layer and global warming. We develop energy conservation techniques and practical applications for non-destructive refrigerants to prevent damage to the ozone layer and prevention of global warming.



Products/Model :

S28ETRS-W

Eco-products No.0005

Home electric appliances / Lightings

Room air conditioner

Household air conditioner with high energy-saving performance

Hitachi Home & Life Solutions, Inc.

15-12, Nishi shimbashi 2-chome, Minato-ku, Tokyo, 105-8410 Japan

Tel; 03-3502-2111 Fax;

E-mail;

URL; <http://www.hitachi-hl.com/>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B1. Recyclability
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This product realizes high energy savings, including cost-saving for electricity as well as resource-saving and prevention of global warming. It is designed for long-term use; its simple structure allows easy cleaning inside and outside with dedicated cleaning spray. In addition, environmentally harmful chemical substances are reduced through applications of new refrigerant and lead-free solder onto electronic control boards. Recycling is also taken into consideration such as in the use of recycled plastics for the product.



Products/Model :
Room Air conditioner RAS-E28S

Eco-products No.0006

Home electric appliances / Lightings

Room air-conditioner

Environmentally-friendly air-conditioner

Mitsubishi Electric Corporation

2-2-3 Marunouchi, Chiyoda-ku, Tokyo, 100-8310 JAPAN

Tel; 03-3218-9024 Fax; 03-3218-2465

E-mail; eqd.eco@hq.melco.co.jp

URL; <http://www.MitsubishiElectric.co.jp/corporate/eco/index.html>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- A4. Waste
- A5. Resource Consumption
- B1. Recyclability

This long-life product can be easily taken apart for cleaning and is designed for recycling after use. COP (coefficient of performance) has been more than doubled while a floor temperature sensor provides energy saving control. Existing pipe can be re-used to reduce waste and limit the amount of new materials needed. Furthermore, it contributes to the reduction of environmentally toxic substances by using lead-free solder for its printed wiring board.



Products/Model :
ZR Series

Eco-products No.0007

Home electric appliances / Lightings

Air Conditioner

Air purifying, energy-saving Air Conditioner

Matsushita Electric Industrial Co., Ltd. Air Condition Division

2-3-1-1 Noji-higashi, Kusatsu City, Shiga, 525-8520 Japan

Tel; 077-567-9807 Fax; 077-561-3208

E-mail;

URL; <http://national.jp/product/air/aircon/>

Category:

- A1. Global Warming
- B1. Recyclability
- B4. Higher Quality
- B5. Energy Saving

This air-conditioner performs many functions, including air purification using an oxygen supply function and an ultrasonic ion air-cleaning function (pollen removal rate 99%). To improve energy efficiency, Matsushita developed the high-performance "e-scroll compressor" and "hybrid heat exchanger", which have already attained Japan's FY'04 energy-saving target by 121%.



Products/Model :
CS-XE283A

Eco-products No.0008

Home electric appliances / Lightings

Digital Video Camera

High-Definition Digital Video Camera

Victor Company of Japan, Limited

12,3-chome, Moriya-cho, Kanagawa-ku, Yokohama, Kanagawa,
2 21-8528 Japan

Tel; 045-450-2512 Fax; 045-453-1406

E-mail;

URL; <http://www.victor.co.jp/>

Category:

- A3. Hazardous Substance
- B6. Environmental Purification
- C6. End-of-Life

Exclusion of a hazardous chemistry substance by the adoption of lead free solder and the natural wood in vibrating plate of speakers.



Products/Model :
High-Definition Digital Video Camera GR-HD1

Eco-products No.0009

Home electric appliances / Lightings

Mini-DV cassette

Mini-DV cassette with recycled resin

Sony Corporation

6-7-35 Kitashinagawa Shinagawa-ku, Tokyo, 141-0001 Japan

Tel; 03-5448-2111 Fax; 03-5448-2244

E-mail;

URL; <http://www.sony.net>

Category:

- A3. Hazardous Substance
- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C1. Material Extraction

The Mini-DV Cassette uses a recently developed recycled resin for more than 40% of the plastic in its cassette and case. The label and index card use 100% recycled paper and are printed using VOC-free vegetable oil-based ink.



Products/Model :

Mini-DV Cassette (3DVM60RE)

Eco-products No.0010

Home electric appliances / Lightings

DVD player

DVD player using lead-free solder

Sony Corporation

6-7-35 Kitashinagawa Shinagawa-ku, Tokyo, 141-0001 Japan

Tel; 03-5448-2111 Fax; 03-5448-2244

E-mail;

URL; <http://www.sony.net>

Category:

- A3. Hazardous Substance
- B1. Recyclability
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

No lead solder is used in this DVD player and it uses less than 0.1W power in stand-by mode. Halogenated flame retardants are not used in the main printed circuit board and the front panel and 100% paper cushion is used for packaging.



Products/Model :

DVD Player(DVP-NS575P)

Eco-products No.0011

Home electric appliances / Lightings

DVD Player

Consumer DVD Player with Reduced Standby Power Consumption

PIONEER CORPORATION

1-4-1 Meguro, 1-chome, Meguro-ku, Tokyo 153-8654 Japan

Tel; 03-3494-1111 Fax; 03-3495-4428

E-mail;

URL; <http://www.pioneer.co.jp>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B5. Energy Saving
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

Not to mention high-definition, the product achieves standby power consumption of 0.07 W and operating power consumption of 8W and offers a reduction in CO₂ emissions. In addition, lead-free solder is used for mounting and chrome-free copperplate is used for the casing.



Products/Model :
DVD Player • DV-474-S

Eco-products No.0012

Home electric appliances / Lightings

DVD Recorder

Resource-saving Hard Disk-mounted DVD Recorder for Saving Resources

PIONEER CORPORATION

1-4-1 Meguro, 1-chome, Meguro-ku, Tokyo 153-8654 Japan

Tel; 03-3494-1111 Fax; 03-3495-4428

E-mail;

URL; <http://www.pioneer.co.jp>

Category:

- A3. Hazardous Substance
- B3. Resource Saving
- B5. Energy Saving
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

The new “SLP Mode” recorder allows around eight hours recording on a single side of DVD. A 1-hour program can be copied to the minimum time of about 66 seconds with the fastest dubbing by the 55 times high-speed function. This reduces the number of discs needed for storage. In addition, its energy-saving design uses only 0.43W in standby mode and its compact size (5.9 cms-high) reduces transportation costs. Furthermore, lead-free solder is used for mounting.



Products/Model :
DVD Recorder with built-in Hard Disc Drive • DVR-620H-S

Eco-products No.0013

Home electric appliances / Lightings

DVD video recorder

Eco-friendly DVD video recorder

Matsushita Electric Industrial Co., Ltd. Panasonic AVC Networks Company

1-15 Matsuo-cho, Kadoma City, Osaka, 571-8504 Japan

Tel; 06-6905-8356 Fax; 06-6905-4755

E-mail; tomiyasu.seiji@jp.panasonic.com

URL; <http://panasonic.co.jp/pavc/>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This new video recorder was developed along the concept of "changing picture recording from tape to disk." It can play back a program currently being recorded from the beginning while continuing to record. Matsushita has put much effort into integrating circuits to save energy, while making parts smaller. Chrome-free steel plate is used for the chassis and top panels.



Products/Model :

DMR-E50-S

Eco-products No.0014

Home electric appliances / Lightings

Compact Component DVD System

Compact Component DVD System

Victor Company of Japan, Limited

12,3-chome, Moriya-cho, Kanagawa-ku, Yokohama, Kanagawa,
2 21-8528 Japan

Tel; 045-450-2512 Fax; 045-453-1406

E-mail;

URL; <http://www.victor.co.jp/>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B1. Recyclability
- C2. Material and Components Production
- C6. End-of-Life

Exclusion of a hazardous chemistry substance : Lead solder etc.



Products/Model :

Compact Component DVD System / EX-A5

Eco-products No.0015

Home electric appliances / Lightings

Digital camcorder

Camcorder using lead-free solder

Sony Corporation

6-7-35 Kitashinagawa Shinagawa-ku, Tokyo, 141-0001 Japan

Tel; 03-5448-2111 Fax; 03-5448-2244

E-mail;

URL; <http://www.sony.net>

Category:

- A3. Hazardous Substance
- B5. Energy Saving
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C4. Product Manufacture

- (1) Lead-free solder is used for soldering
- (2) Halogenated flame retardants are not used in cabinet and in the certain printed wiring boards.
- (3) 100% recycled paper and VOC-free vegetable oil-based ink are used for the carton
- (4) Corrugated cardboard is used for the packaging cushions.



Products/Model :
Digital Handycam (DCR-HC40)

Eco-products No.0016

Home electric appliances / Lightings

Digital Video Camera

High-Bard Digital Video Camera

Victor Company of Japan, Limited

12,3-chome, Moriya-cho, Kanagawa-ku, Yokohama, Kanagawa,
2 21-8528 Japan

Tel; 045-450-2512 Fax; 045-453-1406

E-mail;

URL; <http://www.victor.co.jp/>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

Exclusion of a hazardous chemistry substance and conservation of energy by 20% compared to previous models.



Products/Model :
High-Band Digital Video Camera GR-D230

Eco-products No.0017

Home electric appliances / Lightings

Audio component

Using lead-free solder and realizing high-sound quality

Sony Corporation

6-7-35 Kitashinagawa Shinagawa-ku, Tokyo, 141-0001 Japan

Tel; 03-5448-2111 Fax; 03-5448-2244

E-mail;

URL; <http://www.sony.net>

Category:

- A3. Hazardous Substance
- B1. Recyclability
- B4. Higher Quality
- C6. End-of-Life

The ES series TA-DA9000ES integrated amplifier is a top-class audio component. Sony conducted listening tests using many different kinds of solder to analyze the correlation of solder composition to sound quality. The results showed that lead-free soldering of tin copper eutectic solder, with a copper content of 0.7%, achieves high sound quality and good performance.



Products/Model :
Multi-channel amplifier (TA-DA9000ES)

Eco-products No.0018

Home electric appliances / Lightings

IC memory audio player

Walkman offering large size recording without PC

Sony Corporation

6-7-35 Kitashinagawa Shinagawa-ku, Tokyo, 141-0001 Japan

Tel; 03-5448-2111 Fax; 03-5448-2244

E-mail;

URL; <http://www.sony.net>

Category:

- A3. Hazardous Substance
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

- (1) Lead-free solder and halogenated-free flame retardants are used for major parts and accessories.
- (2) Standby power consumption is 0.1W or less.
- (3) 100% recycled paper is used for the instruction manual; 100% recycled magazine paper is used for the top layer of the carton and VOC-free vegetable oil-based ink is used.



Products/Model :
Network Walkman (NW-MS77DR)

Eco-products No.0019

Home electric appliances / Lightings

Head-phone stereo

Walkman using vegetable-based plastic

Sony Corporation

6-7-35 Kitashinagawa Shinagawa-ku, Tokyo, 141-0001 Japan

Tel; 03-5448-2111 Fax; 03-5448-2244

E-mail;

URL; <http://www.sony.net>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B1. Recyclability
- B3. Resource Saving
- C6. End-of-Life

Vegetable-based plastic is used for around 90% of the product body. This reduces the amount of oil-derived resources used by 55%. Additionally, of course, the plants absorbed CO₂ while they were growing, thus reducing CO₂ emissions by 20%.



Products/Model :

Walkman (WM-FX202)

Eco-products No.0020

Home electric appliances / Lightings

Audio system

Consumer DVD/MD Mini System with reduced standby power consumption

PIONEER CORPORATION

1-4-1 Meguro, 1-chome, Meguro-ku, Tokyo 153-8654 Japan

Tel; 03-3494-1111 Fax; 03-3495-4428

E-mail;

URL; <http://www.pioneer.co.jp>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This compact and recyclable system is designed for saving space with a main body of (W) 320×(H) 86×(D) 275mm. It supports various DVDs/CDs/MDs and has FM/AM reception. Its thin speakers can be wall-mounted. In addition, its energy conservation design enabled 0.065W of standby power consumption, an industrial top-class level. Furthermore, lead-free solder is used for mounting.



Products/Model :

DVD/MD Mini Component System • X-FS9DV

Eco-products No.0021

Home electric appliances / Lightings

Household Lighting equipment

Eco-friendly Household Lighting equipment

TOSHIBA HOME LIGHTING CO., LTD.

3-21, 1-Chome, Bunkyo-ku, Tokyo, 112-0002 Japan

Tel; 03-5805-5048 Fax; 03-3818-8095

E-mail; info.jyusyo@tlc.co.jp

URL; <http://www.tlt.co.jp/>

(<http://www.tlt.co.jp/tlt/akari/homehome/homehome.htm>)

Category:

- B2. Longevity
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

"How can we produce lights that use the earth's finite resources more efficiently?" That question paved the way for the development of Neoslim. It achieves excellent resource savings - to say nothing of energy savings - at every stage of material supply, assembly and packaging.

The amount of both glass and packaging materials has been reduced by roughly 45%.



Products/Model :

NEO SLIM V

Eco-products No.0022

Home electric appliances / Lightings

Office Lighting Fixture

High-efficiency office luminaire offering both energy and resource savings

Toshiba Lighting & Technology Corporation Electric Products Equipment Division

Minamishinagawa JN Bldg, 2-13, Minamishinagawa 2-Chome, Shinagawa-ku, Tokyo, 140-8660 Japan

Tel; 03-5463-8769 Fax; 03-5463-8824

E-mail;

URL; <http://www.tlt.co.jp/>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B3. Resource Saving
- B5. Energy Saving
- C3. Design and Material Selection

White steel plates and aluminum mirror plates with a 90% reflection factor are used as reflectors, contributing to the high efficiency of this product.

To reduce the environmental burden, it uses materials such as chromium-free steel plates, lead-free electric wire and soft solder. It uses less raw material thanks to a reduction in equipment size and weight, and partial packaging. The luminaire has universal voltage so it can be used with power supply voltages ranging from 100V to 242V.



Eco-products No.0023

Home electric appliances / Lightings

Lighting Fixture

Energy saving HID lighting fixture for high-ceilinged rooms

TOSHIBA LIGHTING & TECHNOLOGY CORPORATION Electric Products Equipment Division
Minamishinagawa JN Bldg, 2-13, Minamishinagawa 2-Chome,
Shinagawa-ku, Tokyo, 140-8660 Japan
Tel; 03-5463-8776 Fax; 03-5463-8824
E-mail;
URL; <http://www.tlt.co.jp/>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

High-color-rendering 250W NEOCERA lamp (offering the best lamp efficiency in the industry) and a newly developed reflective film, make this product one of the best lamps in the industry in terms of light output ratio and allows you to reduce the number of lights installed. The product also cuts energy use by about 52% compared with others such as 400W mercury lamp+adaptive accessories in high-ceilinged facilities. An inverter equipped with 100%-50% continuous dimming function also contributes to energy saving by offering flexible lighting control.



Eco-products No.0024

Home electric appliances / Lightings

Emergency Lighting fixture

Emergency Lighting Fixture with fewer substances related to RoHS directives

TOSHIBA LIGHTING & TECHNOLOGY CORPORATION Electric Products Equipment Division
Minamishinagawa JN Bldg, 2-13, Minamishinagawa 2-Chome,
Shinagawa-ku, Tokyo, 140-8660 Japan
Tel; 03-5463-8769 Fax; 03-5463-8824
E-mail;
URL; <http://www.tlt.co.jp/>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B3. Resource Saving
- C3. Design and Material Selection
- C6. End-of-Life

The main body consists of a chrome-free steel plate without any soil pollutant.

The lighting unit is a halogen-free plate without any dioxin emission substance.

Lead-free wire is used in electric wires inside the lighting fixture to cut down toxic substances.

The emergency battery is a cadmium-free nickel hydride battery.



Eco-products No.0025

Home electric appliances / Lightings

Office Lighting Fixture

High efficiency office lighting

MITSUBISHI ELECTRIC LIGHTING CORPORATION

2-14-40, Ofuna, Kamakura-city, Kanagawa, 247-0056 Japan

Tel; 0467-41-2701 Fax; 0467-41-2780

E-mail;

URL; <http://www.mitsubishielectric.co.jp/group/mlf/>

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

This eco-friendly lighting fixture allows you to reduce the number of lighting units by more than 40% since it is 1.7 times as bright as a conventional light. In addition, it uses only 60% of the electricity needed for a conventional product to generate the same level of brightness.

Reducing the number of lighting fixtures contributes to energy conservation and also reduces environmental impact in terms of power consumption and future savings on the amount of material for disposal. Further energy savings can be achieved by making use of the dimming facility.



Eco-products No.0026

Home electric appliances / Lightings

Dishwasher

Water and detergent-saving dishwasher equipped with “ion course”

SHARP CORPORATION

22-22, Nagaike-cho, Abeno-ku, Osaka, 545-8522 Japan

Tel; 06-6621-1221 Fax; 06-6628-1653

E-mail;

URL; <http://www.sharp.co.jp>

Category:

- B2. Longevity
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving
- B7. Usage of Recycled Material

This dishwasher is equipped with a detergent-free option.

<Resource-saving> It incorporates an “ion course” that allows dishes to be thoroughly cleaned in hard water without the use of detergent. A drastic reduction in water consumption is made possible by three “ion attack nozzles” that allow efficient washing and rinsing. More specifically, the volume of water used is reduced by 25% compared with our conventional dishwasher, QW-A60.

<Green material> Lead-free solder is used for all boards and electric cord doesn't include lead or DOP. Specific bromine fire retardant additive is not used since it has the potential to generate toxic gas when incinerated and we have eliminated chloroethelene from both molded components and coating material. Vegetative soy ink and recycled paper are used in the instruction manual.

<Recycling> Plastic used in outer cabinet contains only polypropylene for easy recycling.



Products/Model :
Dishwasher QW-A70-S/C

Eco-products No.0027

Home electric appliances / Lightings

Dishwasher

Water-saving Dishwasher: easy to use

Matsushita Electric Industrial Co., Ltd.

1-2 Kamisu-cho, Toyonaka City, Osaka, 561-0823 Japan

Tel; 06-6331-6278 Fax; 06-6334-0567

E-mail;

URL; http://national.jp/product/house_hold/dishwasher/dishwasher/

Category:

- A5. Resource Consumption
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This easy-to-use dishwasher has a large capacity and flat dish basket and can remove lipstick and green tea stains. It offers improved cleaning efficiency thanks to four cleaning nozzles that move in sequence and water consumption is reduced by about 55% in comparison with a 2002 product (NA-40SX2).



Products/Model :
Dishwasher NP-60SS5

Eco-products No.0028

Home electric appliances / Lightings

Induction Heat Cooking Range

High-powered induction heat cooking range with thermal efficiency

TOSHIBA CONSUMER MARKETING CORPORATION

2-15, Sotokanda 2-chome, Chiyoda-ku, Tokyo, 101-0021 Japan

Tel; 03-3257-6150 Fax;

E-mail;

URL; <http://www.toshiba.co.jp/tcm/>

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

A safe and clean induction heat stove that generates high power without flame. With 3kw right and left burners equipped with induction heating and digital signal processor inverter, this product provides high power-equivalent to 5,400 kcal/h gas cooking stove. In addition, high microcomputer throughput speed ensures rapid heating and maintains a stable temperature for excellent cooking. Other advantages include high thermal efficiency (about 90%), the reduction of heating loss by low radiant heat, ventilation, and air conditioning. The eco-friendly design includes the use of lead-free solder in the production of the electronic board.



Products/Model :
Induction Heating Cooking Heater•BHP-M46XS

Eco-products No.0029

Home electric appliances / Lightings

Air Purifier

Air purifier using Plasmacluster Ion technology

SHARP CORPORATION

22-22, Nagaike-cho, Abeno-ku, Osaka, 545-8522 Japan

Tel; 06-6621-1221 Fax; 06-6628-1653

E-mail;

URL; <http://www.sharp.co.jp>

Category:

- B2. Longevity
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving
- B6. Environmental Purification

This purifier is equipped with a “lookout function”, which helps to create an air environment that prevents airborne bacteria from developing.

<Energy saving> DC motor and inverter control contribute to reduced energy loss use and achieve an annual electric bill of about 600 yen. (This is calculated based on power consumption during silent running and new power charge per unit of 22 yen/kWh (tax included) as a rough standard.)

<Green material> We have discontinued the use of specific bromine fire retardant. Vegetative soy ink and recycled paper are used for the instruction manual. We also applied fire retardant resin to the body and a bicapsular cabtyre cord to allow the product to be placed on the floor.



Products/Model :
Air Purifier FU-P60CX-S

Eco-products No.0030

Home electric appliances / Lightings

Sewing machine

Home sewing machine benefiting from eco-friendly manufacturing

BROTHER INDUSTRIES, LTD.

15-1, naeshiro-cho, Mizuho-Ku, Nagoya 467-0841 Japan

Tel; 052-824-2072 Fax; 052-811-6826

E-mail; toshihiro.izuhara@brother.co.jp

URL; <http://www.brother.co.jp>

Category:

- A2. Air Pollution
- B3. Resource Saving
- C2. Material and Components Production

This product features the use of newly developed resin in place of the conventional aluminum die cast product. This is the first time that LCA has been used in a household sewing machine. In household sewing machines, 60% of the energy used is consumed on “raw material procurement – component processing” stage from the viewpoint of life cycle of “raw material procurement/ component processing/assembling/transportation/ usage/ recycling/disposal” from the result of analysis. In comparison, the new arm bed manufacturing process reduces the exhaust levels of CO₂, Nox and SO_x down to 1/3th or less compared with the aluminum product.



Products/Model :
INNOVIS P-100/N80

Eco-products No.0031

Home electric appliances / Lightings

Vacuum Cleaner

New AERO CYCLONE cleaner saves resources and energy

TOSHIBA TEC CORPORATION

1-1, Kanda Nishiki-cho, Chiyoda-ku, Tokyo, 101-8442 Japan

Tel; 03-3292-4859 Fax; 03-3292-4509

E-mail; environment@toshibatec.co.jp

URL; <http://www.toshibatec.co.jp/>

Category:

- A3. Hazardous Substance
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving
- B6. Environmental Purification

- Resource saving-no need for vacuum cleaner bags thanks to the aero cyclone formula
- High performance-achieves top-level maximum suction power (560W) in the industry
- 15% improvement in the dust suction performance of a brushing power head embedded with DSP
- Use of lead-free solder in circuit boards
- Recycled materials used in instruction manual and packing materials
- Germ elimination and deodorization by means of photo catalyst antibacterial brush and three filters (ion hepaclean, enzyme, bamboo charcoal & photo catalyst antibacterial)



Products/Model :
vacuum cleaner VC-R14C

Eco-products No.0032

Home electric appliances / Lightings

Washing Machine

Ag⁺ ion coating fully-automatic washing machine with drying function

SHARP CORPORATION

22-22, Nagaike-cho, Abeno-ku, Osaka, 545-8522 Japan

Tel; 06-6621-1221 Fax; 06-6628-1653

E-mail;

URL; <http://www.sharp.co.jp>

Category:

- B1. Recyclability
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving
- B7. Usage of Recycled Material

This washing machine saves water because it is a "washing tub without holes".

<Energy saving> Stand-by power consumption is 0W.

<Resource saving> Since water does not pour into the outside of the tub due to its hole-free design, the amount of water and detergent used is drastically reduced.

<Recycling> We have developed our own technology for the recycling of plastic. Sharp is the first company in the industry to develop the technology of assessing the degraded state of plastic in a simplified way along with characteristic improvement treatment and quality control technology. This allows collected polypropylene to be repeatedly recycled as material for new products.

<Green material> Main board uses lead-free solder.



Products/Model :
Fully Automatic Washing Machine
ES-KG83V-A/N

Eco-products No.0033

Home electric appliances / Lightings

Washer/dryer

Drum-type washing machine and dryer with steam washing function

SANYO Electric Co., Ltd.

5-5, Keihan-Hondori 2-Chome, Moriguchi City, Osaka, 570-8677, Japan

Tel; 06-6991-1181 Fax;

E-mail;

URL; <http://www.sanyo.co.jp/>

Category:

- A1. Global Warming
- B1. Recyclability
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

<Energy saving>

- Uses around 40% less electricity and water than our model of eight years ago. (When 6 kg of clothes are washed and dried)
- Washes a 9kg load with only a quarter of the water used by our machine eight years ago to wash 8kg.

<Reduces water pollution>

- "Detergent-free" option allows clothes that are slight stain to be washed without the use of detergent.
- "Mold prevention" option using electrolytic water can be selected to prevent mold forming at the back of the tank even when no detergent is used.



Products/Model :

Drum Type Fully Automatic Washing Machine
AWD-GT 960Z

Eco-products No.0034

Home electric appliances / Lightings

Combined Washer Dryer

Water-saving washer/dryer for domestic use

TOSHIBA CONSUMER MARKETING CORPORATION

2-15, Sotokanda 2-chome, Chiyoda-ku, Tokyo, 101-0021 Japan

Tel; 03-3257-6150 Fax;

E-mail;

URL; <http://www.toshiba.co.jp/tcm/>

Category:

- A4. Waste
- A5. Resource Consumption
- B4. Higher Quality
- B7. Usage of Recycled Material
- C5. Product Use, Maintenance and Repair

This product reduces the environmental burden thanks to its improved water-saving performance. Developed using lead-free solder and reprocessed materials, it satisfies the mounting demand for an all-in-one drum washer dryer.

It achieves a high speed spin by the adjustment of uneven cloth during spin-drying and a 60% reduction in load entanglement compared to our conventional products thanks to the introduction of "baffle to loosen load", along with DSP control. As a result, it now requires only two rinsing cycles rather than the previous three. This brings a major water saving-with the use of only 79 liters per 8kg load compared with 134 liters used by the automatic washer we launched 8 years ago.



Products/Model :

the top in drum TW-80TA

Eco-products No.0035

Home electric appliances / Lightings

Laundry and drying machine

Household laundry and drying machine with high cleaning/drying performance

Hitachi Home & Life Solutions, Inc.

15-12, Nishi shimbashi 2-chome, Minato-ku, Tokyo, 105-8410 Japan

Tel; 03-3502-2111 Fax;

E-mail;

URL; <http://www.hitachi-hl.com/>

Category:

- A3. Hazardous Substance
- B1. Recyclability
- B3. Resource Saving
- B5. Energy Saving
- B7. Usage of Recycled Material

Reduction of 30% in electric power consumption (compared to 1998) and 30% in coolant consumption (compared to 2001) during drying are achieved with this product, contributing to energy-saving. Moreover, the product has a built-in pump to utilize used water from a bath, while power dissipation is almost zero during the standby. In order to reduce environmentally harmful chemical substances, lead-free solder is applied to boards while the product uses steel plates that do not contain chromium compound. In addition, recycled plastics are used for the product body to save resources.



Products/Model :
Washer dryer NW-D8CX

Eco-products No.0036

Home electric appliances / Lightings

Automatic Washing Machine

Easy-to-use water-saving automatic washing machine

Matsushita Electric Industrial Co., Ltd.

1-2 Kamisu-cho, Toyonaka City, Osaka, 561-0823 Japan

Tel; : 06-6331-6758 Fax; 06-6334-0567

E-mail;

URL; http://national.jp/product/house_hold/wash/

Category:

- A5. Resource Consumption
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This washing machine is easy to use thanks to its special design which involved tilting its drum and inlet at a 30°angle. By the effect of tilting the drum, the machine achieves water savings of around 66% water compared with a 1997 product (NA-F70VP1).



Products/Model :
NA-V80

Eco-products No.0037

Home electric appliances / Lightings

Color Television (Tube)

High-quality, Energy-saving and easy- to- use Domestic Color Television

Mitsubishi Electric Corporation

2-2-3 Marunouchi, Chiyoda-ku, Tokyo 100-8310 Japan

Tel; 03-3218-9024 Fax; 03-3218-2465

E-mail; eqd.eco@hq.melco.co.jp

URL; <http://www.mitsubishielectric.co.jp/>

Category:

- A4. Waste
- B1. Recyclability
- B5. Energy Saving
- B7. Usage of Recycled Material
- C5. Product Use, Maintenance and Repair

The company is striving to develop eco-products that reduce environmental impact throughout their life cycle by establishing environmental goals based on MET: That is, Materials should be effectively exploited, Energy should be efficiently used, and Toxic substances should be reduced. A 3R product assessment is made for design and development which looks at green procurement and reducing plastics/packaging materials and power consumption.



Products/Model :

Color television • 25T-D103

Eco-products No.0038

Home electric appliances / Lightings

Liquid Crystal Color Television

Ground and BS, 110 CS digital high-definition liquid crystal television

SHARP CORPORATION

22-22, Nagaike-cho, Abeno-ku, Osaka, 545-8522 Japan

Tel; 06-6621-1221 Fax; 06-6628-1653

E-mail;

URL; <http://www.sharp.co.jp>

Category:

- B1. Recyclability
- B2. Longevity
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving

37V type extended high definition TV equipped with high-definition liquid crystal panel of 3.15 million dots. High-quality sound generated from 1-bit digital amplifier, independent aluminum speaker box, and stainless speaker net.

<Energy saving> Incorporates a brightness sensor, which automatically controls the panel brightness according to room brightness.

<Resource saving> Backing light longevity is about 60,000 hours. Economically-designed so that the backing light can be replaced when brightness begins to diminish.

<Green materials> Main boards feature lead-free solder and the cabinet uses halogen-free material to reduce dioxin release on incineration. In addition, we no longer use polyvinyl-chloride for producing electric cords.



Products/Model :

AQUOS LCD TV LC-37GD1

Eco-products No.0039

Home electric appliances / Lightings

Liquid Crystal Color Television

20V energy and resource-saving long-life liquid crystal color television

SHARP CORPORATION

22-22, Nagaike-cho, Abeno-ku, Osaka, 545-8522 Japan

Tel; 06-6621-1221 Fax; 06-6628-1653

E-mail;

URL; <http://www.sharp.co.jp>

Category:

- B1. Recyclability
- B2. Longevity
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving

Extended definition with a fine liquid crystal panel of 2.36 million dots and D4 image input.

<Energy-saving> Equipped with a brightness sensor, which automatically controls the panel brightness according to room brightness.

<Energy-saving> Backing light longevity is about 60,000 hours. Economically designed so that the backing light can be replaced when original brightness begins to diminish.

<Green materials> Main boards and other components feature lead-free solder.

Internally, halogen-free electric wire is used throughout except for shield wire and high voltage wire. Halogen-free material is also used in the mechanisms.

In addition, we have integrated the grade of fire retardant and applied plastic that includes reclaimed material more than 30% of total volume to a stand.



Products/Model :
AQUOS LCD TV LC-20K1-S

Eco-products No.0040

Home electric appliances / Lightings

Digital high-definition LCD television

LCD TV with remote control power-save function

Sony Corporation

6-7-35 Kitashinagawa Shinagawa-ku, Tokyo, 141-0001 Japan

Tel; 03-5448-2111 Fax; 03-5448-2244

E-mail;

URL; <http://www.sony.net>

Category:

- A3. Hazardous Substance
- B5. Energy Saving
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

Power consumption can be reduced by 20% by adjusting the brightness with remote control. Lead-free solder is used, halogenated flame retardants are not used in printed wiring boards, 100% recycled paper is used for the top layer of the carton.



Products/Model :
Digital High Definition Television(KDL-L32RX2)

Eco-products No.0041

Home electric appliances / Lightings

Digital Hi-Vision TV

Digital LCD Hi-Vision TV

Victor Company of Japan, Limited

12,3-chome, Moriya-cho, Kanagawa-ku, Yokohama, Kanagawa,
2 21-8528 Japan

Tel; 045-450-2512 Fax; 045-453-1406

E-mail;

URL; <http://www.victor.co.jp/>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

We reduced this model's stand-by power consumption by 30% compared to previous models.

We included E.E. sensor which is gentle to eyes and effective in energy conservation.

We also included a listening aid system into this television to help the viewer catch difficult to follow news or programs as the universal design.



Products/Model :
LCD Flat Panel Display LT-26LC50

Eco-products No.0042

Home electric appliances / Lightings

Plasma Television

Consumer High-Definition Plasma Television with reduced power consumption

PIONEER CORPORATION

1-4-1 Meguro 1-chome, Meguro-ku, Tokyo 153-8654 Japan

Tel; 03-3494-1111 Fax; 03-3495-4428

E-mail;

URL; <http://www.pioneer.co.jp>

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

The television achieves high-level brightness (white peak, panel element) of 1000cd/m² while reducing power consumption by 36% compared with the first 1997 model (PDP-50 1HD). It has stand-by power consumption of 0.5W. In addition, the company was successful in directly attaching a film-type PDP front filter to a panel instead of using a glass-type, giving a weight reduction of at least 5kg in comparison with a previous model. Furthermore, lead-free solder is used for mounting.



Products/Model :
50V-type High-Definition Plasma Television • PDP-505HDL

Eco-products No.0043

Home electric appliances / Lightings

Plasma-TV

ALIS energy-saving long-life high-definition plasma TV

Hitachi, Ltd., Digital Media Division

292 Yoshida-cho, Totsuka-ku, Yokohama, 244-0817 Japan

Tel; Fax;

E-mail;

URL; <http://www.hitachi.co.jp/index-j.html>

Category:

- A1. Global Warming
- B1. Recyclability
- B2. Longevity
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The TV uses ALIS for light emission to lengthen the life of phosphors. It is also energy-saving with higher efficiency light emission.

It does not contain harmful substances or environmental pollutants which could be released on recycling and features lead-free solder, halogen-free chassis and chrome-free steel plate.



W55-P5500S + AVC-HR5500

Products/Model :

W55-P5500+AVC-HR5500

Eco-products No.0044

Home electric appliances / Lightings

Plasma Panel TV

Plasma Panel TV: Energy-saving, easy handling, designed for consuming public

Victor Company of Japan, Limited

12,3-chome, Moriya-cho, Kanagawa-ku, Yokohama, Kanagawa, 21-8528 Japan

Tel; 045-450-2512 Fax; 045-453-1406

E-mail;

URL; <http://www.victor.co.jp/>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The TV reduced stand-by power consumption by 30 %, in comparison with our conventional company models. It is equipped with the E.E. sensor providing soft visual image and energy conservation. It is also a universal design product equipped with an audio-supporting system on which audiences can easily hear news and lines.



PD-42DV50

Products/Model :

PD-42DV50

Eco-products No.0045

Home electric appliances / Lightings

Digital Hi-Vision Plasma TV

Digital Hi-Vision Plasma TV: Energy-saving

Matsushita Electric Industrial Co., Ltd. Panasonic AVC Networks Company

1-15 Matsuo-cho, Kadoma City, Osaka 571-8504

Tel; 06-6905-8356 Fax; 06-6905-4755

E-mail; tomiyasu.seiji@jp.panasonic.com

URL; <http://panasonic.co.jp/pavc/>

Category:

- A4. Waste
- B5. Energy Saving
- B7. Usage of Recycled Material
- C1. Material Extraction
- C5. Product Use, Maintenance and Repair

Lead-free soldering was introduced for the print board mounting. Thanks to an improved panel and driving circuit, maximum brightness was increased by about 10% in comparison with a model in the previous year. Power consumption was also reduced by about 5% and it achieved standby power consumption of about 0.2W. It realizes about 60,000 hours of panel life and contributes to effective use of resources.



Products/Model :
TH-50PX300

Eco-products No.0046

Home electric appliances / Lightings

Heat Pump Type Water Heater

Eco Cute, energy-saving natural refrigerant water heater for household use

SANYO Air Conditioners Co., Ltd.

1-1-1, Sakata Oizumi Machi, Ora-Gun, Gunma 370-0596 Japan

Tel; 0276-61-9454 Fax; 0276-61-8887

E-mail;

URL; <http://www.sanyo.co.jp/kuucho/>

Category:

- A1. Global Warming
- A2. Air Pollution
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

Eco Cute is environmentally-friendly and helps to prevent global warming by utilizing non-toxic and non-flammable CO₂ refrigerant with ODP "0" and GWP "1". By using cheap night time electricity and a high-efficiency CO₂ compressor, Eco Cute reduces total energy consumption, leading to substantial energy savings.

*ODP; Ozone Depleting Potential, GWP; Global Warming Potential



Products/Model :
SHP-TC37C

Eco-products No.0047

Home electric appliances / Lightings

Heat Pump Water Heater

Heat Pump Water Heater Using Natural Refrigerant

Matsushita Electric Industrial Co., Ltd.

800 Tsutsui-cho, Yamatokoriyama-city, Nara, 639-1188 Japan

Tel; 0743-56-8785 Fax; 0743-56-9934

E-mail;

URL; <http://national.jp/sumai/hp/>

Category:

- A1. Global Warming
- A2. Air Pollution
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

One-third of the energy consumed by households is used for heating water. This highly efficient and energy-saving water heater has a heat pump that uses natural refrigerant (CO₂). Its primary energy efficiency has reached 114% and CO₂ emissions are only around half that of a gas water heater.



Products/Model :
HE-37K1QLS

Eco-products No.0048

Home electric appliances / Lightings

Notebook personal computer

Notebook PC supporting DVD, floppy disk, and other memory media

Sony Corporation

6-7-35 Kitashinagawa Shinagawa-ku, Tokyo, 141-0001 Japan

Tel; 03-5448-2111 Fax; 03-5448-2244

E-mail;

URL; <http://www.sony.net>

Category:

- A3. Hazardous Substance
- B1. Recyclability
- B2. Longevity
- B5. Energy Saving
- C3. Design and Material Selection

- (1) Lead-free solder is used for soldering main printed wiring boards
- (2) Cabinet plastic and main printed wiring boards do not contain halogenated flame retardants
- (3) Carton is made from 100% recycled magazine paper, and is printed using VOC-free vegetable oil based ink
Paper, rather than polystyrene foam, is used for the packaging
- (4) cushion.



Products/Model :
Personal Computer VAIO (VGN-E50B/E70B)

Eco-products No.0049

Home electric appliances / Lightings

Fluorescent lamp

Industry's first fluorescent lamp for office to energy-saving and resource-saving

TOSHIBA LIGHTING & TECHNOLOGY CORPORATION

Minamishinagawa JN Bldg, 2-13, Minamishinagawa 2-chome,
Shinagawa-ku, Tokyo 140-8660 Japan
Tel; 03-5463-8800 Fax;
E-mail;
URL; <http://www.tlt.co.jp/>

Category:

- A5. Resource Consumption
- B2. Longevity
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

"NEOSLIM-Z SQUARE" is a square fluorescent lamp designed for high frequency operation in offices (ceiling-fitment) and is industry-first in energy-saving and resource-saving.

- (1) High efficiency: we achieved lamp efficiency of 103 lm/W at 35 °C ambient temperature.
- (2) High luminous flux: 7200 lm, providing brightness equivalent to that of four 20W tubular type fluorescent lamps.
- (3) Long life: rated-life of 15,000 hours.(Conventional fluorescent lamps have a life of 6,000 hours for circular, 8,500-12,000 hours for tubular type, respectively.)
- (4) Resource-saving: Uses a slim tube with a diameter of 16mm. Tube diameter of current fluorescent lamps is 25mm-32.5mm.)



Products/Model :
NEOSLIM-Z SQUARE • FHG70EN

Eco-products No.0050

Home electric appliances / Lightings

Compact self-ballasted fluorescent lamp

Eco-friendly "NEOBALL-Z," compact self-ballasted fluorescent lamp for housing, stores and facilities

TOSHIBA LIGHTING & TECHNOLOGY CORPORATION

Minamishinagawa JN Bldg, 2-13, Minamishinagawa 2-chome,
Shinagawa-ku, Tokyo 140-8660 Japan
Tel; 03-5463-8800 Fax;
E-mail;
URL; <http://www.tlt.co.jp/>

Category:

- A5. Resource Consumption
- B2. Longevity
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

"NEOBALL-Z"(EFA15EL/13-ZJ) is a fluorescent lamp with built-in electronic ballast and E26 base, the same size and shape as conventional GLS bulb. It is replaceable with conventional GLS bulb without any problem. Features in comparison with the conventional GLS bulb:

- (1) Energy consumption: Approx. 1/4,
- (2) Heat dissipation: Approx. 1/4,
- (3) Life: Approx. 6 times longer than that of 60W GLS.



Products/Model :
NEOBALL-Z • EFA15EL/13-ZJ

Eco-products No.0051

Home electric appliances / Lightings

Compact Self-ballasted Fluorescent Lamp

Energy saving compact self-ballasted fluorescent lamp

Toshiba Lighting & Technology Corporation

Minamishinagawa JN Bldg, 2-13, Minamishinagawa 2-Chome,
Shinagawa-ku, Tokyo, 140-8660 Japan

Tel; 03-5463-8786 Fax; 03-5463-8829

E-mail; takahiro.nishio@tlt.co.jp

URL; http://www.tlt.co.jp/tlt/index_j.htm

Category:

- A1. Global Warming
- B2. Longevity
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving

Power consumption/energy requirement is reduced by 80% compared with an incandescent lamp. Lamp life is six times longer than that of an incandescent lamp.



Products/Model :
EFD13D/65-E3U

Eco-products No.0052

Home electric appliances / Lightings

Induction Fluorescent Lamp

Long-life, energy saving Induction Fluorescent Lamp:

Matsushita Electric Industrial Co., Ltd.

1-1 Saiwai-cho, Takatsuki, Osaka 569-1193 Japan

Tel; 072-682-5521 Fax; 072-682-7235

E-mail;

URL; <http://panasonic.co.jp/lamp/>

Category:

- A2. Air Pollution
- A5. Resource Consumption
- B2. Longevity
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

By changing from filament heat to a fluorescent lamp, this lamp offers high energy-efficiency and a long product life. Newer models have become increasingly small and applicable to many appliances. The lamp life is six times longer than incandescent bulbs, so it reduces the need for replacement.



Products/Model :
EFA15EL/12

Eco-products No.0053

Home electric appliances / Lightings

Fluorescent Lamp

BB-3^{Triple} IN Type: High efficiency, long life time

Mitsubishi Electric OSRAM Ltd.

Tobu Yokohama Bldg.No.3 (4F) 8-29, Kita-Saiwai 2-chome, Nishi-ku
Yokohama, 220-0004 Japan

Tel; 045-323-5187 Fax; 045-323-5156

E-mail;

URL; <http://www.mol-oml.co.jp>

Category:

- A5. Resource Consumption
- B2. Longevity
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The six tube type compact fluorescent lamp (FHT type) has excellent even light distribution and is appropriate for use of base lighting of facilities. In addition, it is designed only for high-frequency lights and has high efficiency and long life time. The 57 W IN type is the highest wattage type of our FHT lamps and accomplished high beam. Furthermore, the use of amalgam (mercury alloy) allows the maintenance of the best luminous efficiency even if a lamp ambient temperature becomes high. It has four kinds of light colors, incandescent color, warm white, white and day white.



Products/Model :

BB-3^{Triple} FHT57 IN TYPE

Eco-products No.0054

Home electric appliances / Lightings

Refrigerator

Plasmacluster Ion refrigerator with a door opened from both sides

SHARP CORPORATION

22-22, Nagaike-cho, Abeno-ku, Osaka, 545-8522 Japan

Tel; 06-6621-1221 Fax; 06-6628-1653

E-mail;

URL; <http://www.sharp.co.jp>

Category:

- B1. Recyclability
- B2. Longevity
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving

Non-CFC (non-chlorofluorocarbon) refrigerator that incorporates eco-friendly materials and improved energy saving functions.

<Energy-saving> The product includes energy saving technologies that we have developed such as a high efficiency compressor and meticulous inverter control. The product incorporates a flexible power saving mode including an overnight power saving function and power saving during your absence.

<Green material> The product does not use bromine fire retardant. It incorporates dehydrochloroethene, lead-free solder boards, lead-free wire, and recycled resin etc. Uses non-CFC refrigerant R-600a. By using advanced technology, it achieves ODP (ozone-depleting potential) of zero and 1/400th of the value of conventional CFC substitutes' GWP (global warming potential).



Products/Model :

Refrigerator SJ-PV40H-W/Y/A/R/C

Eco-products No.0055

Home electric appliances / Lightings

Refrigerator/Freezer

Energy saving Chlorofluorocarbon (CFC)-free refrigerator/freezer

TOSHIBA CONSUMER MARKETING CORPORATION

2-15, Sotokanda 2-chome, Chiyoda-ku, Tokyo, 101-0021 Japan

Tel; 03-3257-6150 Fax;

E-mail;

URL; <http://www.toshiba.co.jp/tcm/>

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

This product is one of the most advanced in a series of CFC-free refrigerators in terms of energy conservation. It features lead-free solder as well as CFC-free refrigerants to prevent global warming, and uses far less electricity. Annual power consumption is only 150 kwh/year, which means it uses only 1/7th of the power consumed by a similar type of refrigerator 10 years ago. It has a two-stage inverter compressor, DSP inverter control and vacuum insulating material.



Products/Model :
Freon-free Freezer/Refrigerator

Eco-products No.0056

Home electric appliances / Lightings

Refrigerator

CFC-free, energy and space- saving large capacity refrigerator

Hitachi Home & Life Solutions, Inc.

15-12, Nishi shimbashi 2-chome, Minato-ku, Tokyo, 105-8410 Japan

Tel; 03-3502-2111 Fax;

E-mail;

URL; <http://www.hitachi-hl.com/>

Category:

- A1. Global Warming
- B1. Recyclability
- B5. Energy Saving
- B7. Usage of Recycled Material
- C6. End-of-Life

This eco-friendly refrigerator uses CFC-free R-600a (isobutane) as refrigerant and cyclopentane as a thermal insulation foaming agent. It achieves power consumption of 190kWh/year (one of the highest in the home appliance industry) by employing a new cooling system that consists of variable temperature control condenser, vacuum insulation material, and vector PAM control.

It incorporates lead-free boards and power cords and uses re-processed plastic in order to prevent environmental pollution.



Products/Model :
Refrigerator R-SF42SPAM

Eco-products No.0057

Home electric appliances / Lightings

Refrigerator

Environmentally-friendly Freon-free double-door domestic refrigerator

Matsushita Electric Industrial Co., Ltd.

6-17-15, Shinbashi, Minato-ku, Tokyo, 105-0004 Japan

Tel; 03-6403-3827 Fax; 03-6403-3912

E-mail;

URL; <http://national.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

Both refrigerant and insulation are Freon-free. The compressor used for non-Freon refrigerant achieves power consumption of 360kwh/year. We are the only domestic manufacturer of a compact Freon-free refrigerator.



Products/Model :
NR-B162R

Eco-products No.0058

Home electric appliances / Lightings

Refrigerator

Environmentally -friendly Freon-free energy-saving -No.1 refrigerator

Matsushita Electric Industrial Co., Ltd.

6-17-15, Shinbashi, Minato-ku, Tokyo, 105-0004 Japan

Tel; 03-6403-3827 Fax; 03-6403-3912

E-mail;

URL; <http://national.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

Refrigerant and insulation are made without Freon. The product features high-efficiency vacuum insulation making it about 10 times as efficient as a conventional refrigerator. Energy savings of 180kwh/year are possible thanks to the insulation and hyper-wave inverter compressor, etc.



Products/Model :
NR-E462U

Eco-products No.0059

Home electric appliances / Lightings

Battery Charger

“Pocket Energy Multi” eco-friendly solar-powered battery charging

NTT Advanced Technology Corporation

Neocity Mitaka Bldg. 7F, 3-35-1, Shimorenjaku, Mitaka-city, Tokyo,
181-0013, Japan

Tel; 0422-47-7895 Fax; 0422-47-8290

E-mail; kankyou@neo.ntt-at.co.jp

URL; <http://www.keytech.ntt-at.co.jp/>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

“Pocket Energy Multi” consists of the body of storage and the part of power generation that can provide clean energy as it exploits solar power. Its internal battery is expected to achieve over 500 cycles (equal to 1000 AA-size alkaline batteries) making it extremely environmentally friendly.



Products/Model :

Pocket Energy Multi

Eco-products No.0060

Home electric appliances / Lightings

Wind and Photovoltaic Power Utilizing System

“Kaze-Kamome” hybrid tower using both wind and photovoltaic power

Matsushita Ecology Systems Co., Ltd.

4017 Takaki-chou shimonakata, Kasugai-City, Aichi, 486-8523 Japan

Tel; 0568-81-9159 Fax; 0568-81-9935

E-mail; ootsu.kazuteru@jp.panasonic.com

URL; <http://panasonic.co.jp/mesc>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B2. Longevity
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

- Kaze-Kamome is a wind/sunlight hybrid power generator using natural energy.
- A twisted savonius-type windmill can receive wind from all directions, reducing noise level.
- Kaze-Kamome can be used for outdoor offgrid power supply such as streetlights and network cameras.



Products/Model :

FY-17TWF1

Eco-products No.0061

Carriers / Automobiles

Automobile

“FCX,” zero emission fuel-cell car that reduces environmental impact

Honda Motor Co., Ltd.

2-1-1 Minami-aoyama, Minato-ku, Tokyo, 107-8556 Japan

Tel; 03-5412-1155 Fax; 03-5412-1154

E-mail;

URL; <http://www.honda.co.jp/>

Category:

- A1. Global Warming
- A2. Air Pollution
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This fuel-cell vehicle is powered by electricity generated by a chemical reaction between hydrogen and oxygen and does not emit exhaust gas. It is a powerful and responsive car that uses Honda's highly efficient Ultra Capacitor as a storage system. In addition, start-up is possible at 20°C below freezing thanks to its “Honda FC STACK,” next-generation fuel cell stack.



Products/Model :

FCX

Eco-products No.0062

Carriers / Automobiles

Automobile

New eco-friendly Prius with hybrid power

Toyota Motor Corporation

1, Toyota-cho, Toyota-shi, Aichi, 471-8571

Tel; 0565-23-1572 Fax; 0565-23-1589

E-mail; hiromasa_hino@mail.toyota.co.jp

URL; <http://www.toyota.co.jp>

Category:

- A1. Global Warming
- A2. Air Pollution
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving

The new Prius model is equipped with THS, a new-generation Toyota Hybrid System known as Hybrid Synergy Drive, which means simultaneous evolution of ecology and power. It achieves world-beating fuel consumption of 35.5km/L and low emissions. The drive has been dramatically improved by the development of hybrid power. 10-15 mode drive. (Ministry of Land, Infrastructure and Transport figure)



Products/Model :

Prius

Eco-products No.0063

Carriers / Automobiles

Automobile

Eco-friendly Civic Hybrid car

Honda Motor Co., Ltd.

2-1-1 Minami-aoyama, Minato-ku, Tokyo, 107-8556 Japan

Tel; 03-5412-1155 Fax; 03-5412-1154

E-mail;

URL; <http://www.honda.co.jp/>

Category:

- A1. Global Warming
- A2. Air Pollution
- B1. Recyclability
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The Civic Hybrid is equipped with Honda's IMA system. An electric motor assists the engine during start up and acceleration. It achieves ultra-low fuel consumption of 29.5km/l with its 1.3L i-DSI VTEC Cylinder Cut-off System engine. (10-15 mode drive fuel consumption)

Moreover, its exhaust gas is cleaner thanks to a lean-burn-compatible NOx absorption-type catalyzer, which achieves a reduction in CO₂ and harmful substances.



シビック ハイブリッド

2003.9

Products/Model :
CIVIC HYBLID

Eco-products No.0064

Carriers / Automobiles

Automobile

Idling Stop System for improved fuel consumption

Toyota Motor Corporation

1, Toyota-cho, Toyota-shi, Aichi, 471-8571

Tel; 0565-23-1572 Fax; 0565-23-1589

E-mail; hiromasa_hino@mail.toyota.co.jp

URL; <http://www.toyota.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The Toyota Vitz is a CVT* vehicle, featuring the "Toyota Intelligent Idling Stop System" which applies hybrid technology. We achieved the lowest domestic fuel consumption value of 22.5km/L, for a light car, excluding hybrids and improved fuel consumption by 8.5% compared with our current vehicle by using a lithium ion battery that allows automatic idling stop when the vehicle stops.

*CVT:Continuously Variable Transmission



Products/Model :
Vitz

Eco-products No.0065

Carriers / Automobiles

Truck

"Isuzu GIGA", Heavy-Duty Truck for long haul with clean emissions and fuel economy

ISUZU MOTORS LIMITED

6-26-1 Minami-oi, Shinagawa-ku, Tokyo 140-8722 Japan

Tel; 03-5471-1394 Fax; 03-5471-1039

E-mail; takashi_kanazawa@notes.isuzu.co.jp

URL; <http://www.isuzu.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

"Isuzu Giga" complies with the 2004 emission regulations thanks to the optimized combustion, electronic control, and after-treatment technology for exhaust emissions. It is officially recognized as a "Diesel Vehicle with Ultra low Particulate Matter Emission☆☆☆"(PM : less than 0.05g/KW/h) by the Ministry of Land, Infrastructure and Transport. Along with the excellent emission control performance, it is an environmentally-friendly vehicle that offers dramatically reduced fuel consumption with the "Smoother-G" fully automatic mechanical transmission.



Products/Model :

" Isuzu GIGA " Heavy-Duty Truck

Eco-products No.0066

Carriers / Automobiles

Truck

"Isuzu Forward", clean emission medium-duty truck with fuel-efficient automatic transmission

ISUZU MOTORS LIMITED

6-26-1 Minami-oi, Shinagawa-ku, Tokyo 140-8722 Japan

Tel; 03-5471-1394 Fax; 03-5471-1039

E-mail; takashi_kanazawa@notes.isuzu.co.jp

URL; <http://www.isuzu.co.jp>

Category:

- A1. Global Warming
- A2. Air Pollution
- B5. Energy Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

"Isuzu Forward" complies with the 2003 emission regulations thanks to the optimized combustion, electronic control, and after-treatment technology for exhaust emissions. It is officially recognized as a "Diesel Vehicle with Ultra low Particulate Matter Emission☆☆☆"(PM : less than 0.027g/KW/h) by the Ministry of Land, Infrastructure and Transport. Offering excellent emission control performance, it is an environmentally-friendly medium-duty vehicle mounted with a new two-pedal(no clutch pedal) transmission "Smoother-F", which combines the comfort of AT with the economical efficiency of MT.



Products/Model :

"Isuzu Forward " Medium-Duty Truck

Eco-products No.0067

Carriers / Automobiles

Truck

'Isuzu Elf' clean emission city delivery truck equipped with fuel-efficient automatic transmissionsion

ISUZU MOTORS LIMITED

6-26-1 Minami-oi, Shinagawa-ku, Tokyo 140-8722 Japan

Tel; 03-5471-1394 Fax; 03-5471-1039

E-mail; takashi_kanazawa@notes.isuzu.co.jp

URL; <http://www.isuzu.co.jp>

Category:

- A1. Global Warming
- A2. Air Pollution
- B5. Energy Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

'Isuzu Elf' complies with the 2003 emission regulations thanks to the optimized combustion, electronic control, and after-treatment technology of exhaust emissions. It is officially recognized as a "Diesel Vehicle with Ultra low Particulate Matter Emission☆☆☆"(PM : less than 0.027g/KW/h) by the Ministry of Land, Infrastructure and Transport. Offering excellent emission control performance, it is an environmentally -friendly delivery truck equipped with a new two-pedal (no clutch pedal) transmission, 'Smoother-E', which combines the comfort of AT with the economical efficiency of MT.



Products/Model :

"Isuzu Elf " Light Duty Truck

Eco-products No.0068

Carriers / Automobiles

Truck

"Isuzu Elf CNG" clean-emission truck with low vibration and noise

ISUZU MOTORS LIMITED

6-26-1 Minami-oi, Shinagawa-ku, Tokyo 140-8722 Japan

Tel; 03-5471-1394 Fax; 03-5471-1039

E-mail; takashi_kanazawa@notes.isuzu.co.jp

URL; <http://www.isuzu.co.jp>

Category:

- A2. Air Pollution
- A5. Resource Consumption
- B3. Resource Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

The Isuzu Elf CNG reduces NOx, CO, HC and other exhaust emissions dramatically with the CNG-powered engine and three-way catalytic converter. It offers excellent emission control performance, equivalent to the highest level of the low emission standard set by the Ministry of Land, Infrastructure and Transport, 'Ultra low Particulate Matter Emission Level ☆☆☆'. Black smoke and particulate matter is reduced to zero level. In addition, it is much quieter and has lower vibration level than conventional diesel-powered trucks.



Products/Model :

" Isuzu GIGA " Heavy-Duty Truck

Eco-products No.0069

Carriers / Automobiles

Natural Gas Truck

Natural Gas Truck: Low-pollution vehicle that runs on compressed natural gas

Sagawa Express Co., Ltd.

68, Tsunoda-cho, Kamitoba, Minami-ku, Kyoto, 601-8104 Japan

Tel; 075-691-6500 Fax; 075-681-2349

E-mail;

URL; <http://www.sagawa-exp.co.jp/>

Category:

- A1. Global Warming
- A2. Air Pollution
- A5. Resource Consumption
- B6. Environmental Purification

Environmental countermeasure against truck as a transportation medium of comprehensive distribution industry is central to reduction of environment burden. This natural gas truck is a low-pollution vehicle that runs on compressed natural gas. Compared with conventional diesel vehicles, it drastically reduces environmental impact, with reductions of 20% in CO₂, 90% in NO_x and 100% in PM. It is currently the most environment-friendly truck.



Eco-products No.0070

Carriers / Automobiles

Catalyst for Purifying Exhaust Gas

Intelligent catalyst for purifying exhaust gas with reduced precious metal

DAIHATSU MOTOR CO., LTD.

1-1 Daihatsu-cho, Ikeda-city, Osaka 563-8651 Japan

Tel; 072-754-3348 Fax; 072-754-3347

E-mail; environmental_dep@mail.daihatsu.co.jp

URL; <http://www.daihatsu.co.jp>

Category:

- A2. Air Pollution
- B3. Resource Saving
- B4. Higher Quality
- C4. Product Manufacture
- C5. Product Use, Maintenance and Repair

The Intelligent Catalyst is the world's first automotive catalyst with a function to regenerate precious metals within automotive exhaust gases without any auxiliary treatment. It maintains its initial catalytic performance by incorporating palladium into a perovskite-type ceramic crystal, using Daihatsu's proprietary nanotechnology. In a conventional catalyst, because the catalytic activity deteriorates during vehicle use, greater and greater amounts of precious metals must be used. By this function, we reduced the consumption of precious metals by 70% in comparison with a conventional catalyst and achieved four stars of the Japanese SULEV(Super Ultra Low Emission Vehicle)standard. This technology is one solution for the Pd supply and demand problem, and it is expected to become the global standard for automotive catalyst technology.



Products/Model :

Intelligent Catalyst · MOVE, Mira, Tanto, MAX

Eco-products No.0071

Carriers / Automobiles

Car Navigation

Car Navigation System for economize fuel consumption

PIONEER CORPORATION

1-4-1 Meguro, 1-Chome, Meguro-ku, Tokyo 153-8654 Japan

Tel; 03-3494-1111 Fax; 03-3495-4428

E-mail;

URL; <http://www.pioneer.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B5. Energy Saving
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

This navigation system continuously receives the latest map, road and service information from a server, using a communications system. The system automatically upgrades map information without the need for discs, unlike a DVD car navigation system, and this leads to resource saving. In addition, it can set a route based on the latest information on road congestion. This limits unnecessary fuel consumption and CO₂ emissions and makes journeys more enjoyable. Furthermore, it is produced with lead-free solder and easily recyclable cardboard is used for packaging.



Products/Model :

Off-board Car Navigation System • AVIC-T1

Eco-products No.0072

Carriers / Automobiles

Sporty Scooter

Cygnus X: New design 4-valve plated cylinder

YAMAHA MOTOR CO., LTD.

Shingai, Iwata, Shizuoka 438-8501 Japan

Tel; 0538-32-1100 Fax; 0538-37-4258

E-mail;

URL; <http://www.yamaha-motor.co.jp/>

Category:

- A1. Global Warming
- A2. Air Pollution
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The Cygnus X scooter features a new engine with a 4-valve combustion chamber that achieves outstanding intake/exhaust efficiency and a plated cylinder for excellent heat dissipation and reduced oil consumption. What's more, it uses the Yamaha air induction system that cleans emissions by burning unburned fuel in the exhaust and a "hot tube." As a result this model achieves 12% better fuel economy in a standardized mileage test than the existing version of the same model.



「CYGNUS X」(シグナス X)

Products/Model :

「CYGNUS X」

Eco-products No.0073

Carriers / Automobiles

New model "Eco Body"

New model "Eco Body": High-powered eco-friendly new model paying respect to global environment

Sagawa Express Co., Ltd.

68, Tsunoda-cho, Kamitoba, Minami-ku, Kyoto, 601-8104 Japan

Tel; 075-691-6500 Fax; 075-681-2349

E-mail;

URL; <http://www.sagawa-exp.co.jp/>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material

The new model "Eco Body" offers high performance while taking environmental considerations into account. To achieve enhanced durability and energy savings, we made the following changes: (1) replaced the steel plate with a composite (Zn-Al-Mg) plated steel sheet (cross member/openings), which much improves the anti-rust performance (2) covered electrical wiring for protection against de-icer in winter (3) enhanced the intensity to 1.2 times the value of a conventional vehicle through a monocoque structure with sandwich panel. Non-Freon Phenolic Foam is used as an adiabator. Interior material uses 100% recycled PS board and all of these materials are recyclable.



Eco-products No.0074

Carriers / Automobiles

Automobile Tire

Low-noise and Fuel-economy Automobile Tire

Toyo Tire & Rubber Co., Ltd.

17-18, Edobori 1-chome, Nishi-ku, Osaka-shi, Osaka, 550-8661 Japan

Tel; 06-6441-8801 Fax;

E-mail;

URL; <http://www.toyo-rubber.co.jp/>

Category:

- A1. Global Warming
- A2. Air Pollution
- A5. Resource Consumption
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The company has developed PROXES, a low-noise tire with higher vibration absorption and fuel-economy and TRANSAS TEO that is about 15% less of a resistance index than conventional products. Its fuel-economy tire in particular promotes energy conservation and resource-savings (reduced CO₂).



Products/Model :

PROXES, TRANSAS TEO

Eco-products No.0075

OA / IT Equipments

FAX

FAX: Smallest and lightest FAX in industry for private/business users

NEC Corporation

7-1, Shiba 5-chome, Minato-ku, Tokyo 108-8001 Japan

Tel; 03-3798-6617 Fax; 03-3798-9186

E-mail;

URL; <http://www.nec.com/>

Category:

- B1. Recyclability
- B3. Resource Saving
- B5. Energy Saving
- C1. Material Extraction
- C3. Design and Material Selection

- Products are designed in the smallest and lightweight among all the fax products
- Design for easy dismantling with common industrial tools



Products/Model :
Speax SPX-S21/S21W

Eco-products No.0076

OA / IT Equipments

Business fax machine

High performance eco-friendly fax machine

Panasonic Communications Co., Ltd.

2-3-8 Shimomeguro, Meguro-Ku, Tokyo, 153-8687 JAPAN

Tel; 03-5434-7020 Fax; 03-5434-7904

E-mail; takenouchi.hiroyuki@jp.panasonic.com

URL; <http://panasonic.co.jp/pcc/index.html>

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- B7. Usage of Recycled Material
- C5. Product Use, Maintenance and Repair

This product features a power-saving mode, which sets the heater in the printer block to standby /energy-saving mode, to use minimum required power. This design reduces power consumption at standby by 80% (compared to our conventional model, UF-A70) using power-saving circuit technology.

The machine is also a lead-free product and lead-free soldering has been used for printed boards. In addition, when two small fax documents are received, the machine prints them out on a single sheet of paper through its "2 in 1" function, to reduce paper waste.



Products/Model :
Panafax UF-A80MkII

Eco-products No.0077

OA / IT Equipments

Multi-functional Machine

Multi-functional Machine: Eco-friendly and universal, designed for private/business users

NEC Corporation

7-1, Shiba 5-chome, Minato-ku, Tokyo 108-8001 Japan

Tel; 03-3798-6617 Fax; 03-3798-9186

E-mail;

URL; <http://www.nec.com/>

Category:

- B2. Longevity
- B5. Energy Saving
- B7. Usage of Recycled Material
- C1. Material Extraction
- C3. Design and Material Selection

- Reduce energy by 59% in standby mode and by 13% in operation mode compared with conventional products
- Use lead-free soldering for main motherboards
- 100% use of non-halogen flame retardant plastic for the casing of products
- Use recycled plastics, containing over 10% recycled plastics, for handles of recording paper cassette
- 100% use of hexavalent chromium less metal sheet for the products casing
- Achieve universal design



Products/Model :
MULTINA_3520

Eco-products No.0078

OA / IT Equipments

Copying machine (Multi-functional copier)

Multi-functional copier that minimizes environmental impact

Canon Inc.

30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, 146-8501 Japan

Tel; 03-3758-2111 Fax; 03-3758-1160

E-mail;

URL; <http://canon.jp/>

Category:

- A1. Global Warming
- B5. Energy Saving
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

This equipment, with on-demand fixing technology, uses only a quarter of the electricity consumed by our conventional heat-roller fixing equipment during standby mode. It also achieves one-fifth the warm up time of our conventional heat-roller fixing equipment. The use of recycled plastics contributes to resource savings.



Products/Model :
Digital multifunctional copier, IR 3300

Eco-products No.0079

OA / IT Equipments

Copying machine (Multi-functional copier)

Document Optimizer, Multi-functional color copier - to increase office efficiency

Canon Inc.

30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo 146-8501, Japan

Tel; 03-3758-2111 Fax; 03-3758-1160

E-mail;

URL; <http://canon.jp/>

Category:

- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

Recycled plastic is used for some parts of the exterior cover under an economical closed recycling system. Hexavalent chromium-free components (e.g. steel plates and screws) and lead-free components (e.g. lenses and cables) are used. The compact design reduces the resources that go into making the product.



Products/Model :

Color multifunctional copier, IR C3200

Eco-products No.0080

OA / IT Equipments

Monochrome High-Speed Digital Multifunctional Device

High speed eco-friendly digital multifunctional machine

Fuji Xerox. Co., Ltd.

2-17-22 Akasaka, Minato-ku, Tokyo, 107-0052 Japan

Tel; 03-5573-2882 Fax; 03-5573-2883

E-mail; kazuo.Suzuki@fujixerox.co.jp

URL; <http://www.fujixerox.co.jp/>

Category:

- A1. Global Warming
- B1. Recyclability
- B3. Resource Saving
- B5. Energy Saving
- B7. Usage of Recycled Material

- The DocuCentre 1015S has a TWAIN-compatible color network scanner as standard allowing paper documents to be converted into electronic data promote converts.
- Our "resource recycling system-Closed loop system" encompasses every stage of the production chain from the upstream product
- The Docucentre 1015S/1015/905 is labeled a recyclable product with the highest proportion of recycled, reused parts. Meets the company's high standards.
- Complies with the International Energy Star Program.



Products/Model :

DocuCentre 905

Eco-products No.0081

OA / IT Equipments

Digital Color Multifunctional Machine

Eco-friendly Intelligent multifunctional machine

Fuji Xerox. Co., Ltd.

2-17-22 Akasaka, Minato-ku, Tokyo, 107-0052 Japan

Tel; 03-5573-2882 Fax; 03-5573-2883

E-mail; kazuo.Suzuki@fujixerox.co.jp

URL; <http://www.fujixerox.co.jp/>

Category:

- B1. Recyclability
- B3. Resource Saving
- B5. Energy Saving
- B7. Usage of Recycled Material
- C5. Product Use, Maintenance and Repair

Converting paper documents to electronic data is just as easy and fast as copying with the DocuCentre Color 450f develop productivity as well as decrease environmental burden with promoting information retrieval, sharing and utilizing information.

Besides, our "resource recycling system-Closed loop system" encompasses every stage of the production chain from the upstream product.

Based on the principle that used products are precious resources rather than waste, we established a "Closed Loop System" to make best use of resources. We then introduced two concepts of "inverse manufacturing". Firstly, we lessened environmental impact by maximizing the use of used parts and secondly, we looked at achieving zero landfill by thorough disassembly and separation.

Under the resource recycling system, equipment such as copy machines, digital multifunction products and other FX devices are dismantled and parts that satisfy stringent quality standards are re-introduced into the product line. DocuCentre Color is labeled an FX recyclable product, achieving the company's 17 standards in the usage rate of recycled and re-usable parts by manufacturing in a closed-loop production process. The percentage of parts re-used in a machine (weight-wise) is over 73% and the percentage of renewable resources is (weight-wise) over 99.97%.



Products/Model :
DocuCentre Color f450

Eco-products No.0082

OA / IT Equipments

Digital multi-function copier

Energy-saving digital multi-function copier

SHARP CORPORATION

22-22, Nagaike-cho, Abeno-ku, Osaka, 545-8522 Japan

Tel; 06-6621-1221 Fax; 06-6628-1653

E-mail;

URL; <http://www.sharp.co.jp>

Category:

- B1. Recyclability
- B2. Longevity
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving

This digital multi-function copier machine features power consumption as low as 1W or less in standby mode.

<Power saving> Power consumption as low as 1W or less in standby (at auto power shut-off). It also offers energy savings of almost 27% compared with previous model (AR-265S).

<Green materials> We applied lead-free solder to main boards and chromium-free steel plate to the chassis and other parts. We also used lead-free power cord/wire harness, halogen-free resin for the external cabinet. Packaging materials are made from cardboard (suitable for recycling) rather than foam polystyrene.

*This photograph contains some options.



Products/Model :
Multifunction Digital Copier AR-266S

Eco-products No.0083

OA / IT Equipments

Digital multifunctional Device

High reuse/recyclable energy-saving digital multi-functional device

Konica Minolta Business Technologies, Inc.

1-6-1 Marunouchi 1-chome, Chiyoda-ku, Tokyo 100-0005 Japan

Tel; 03-6250-2360 Fax; 03-6250-2496

E-mail; eco-support@konicaminolta.jp

URL; <http://konicaminolta.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- B5. Energy Saving
- B7. Usage of Recycled Material

■ Energy conservation during operation: Thanks to its energy-saving design, Konica Minolta's digital multi-functional workgroup achieves industry top level energy efficiency of 31Kwh/h.

■ Reusable/Recyclable design: we developed the workgroup so that used products can be reused or recycled with ease, reducing environmental impact. This means that it is possible to reuse or recycle about 92% of the components and materials used.



Products/Model :
Konica Minolta 7235

Eco-products No.0084

OA / IT Equipments

Digital Full-Color Copier

Digital Full-Color Copier

SHARP CORPORATION

22-22 Nagaïke-cho Abeno-ku Osaka, 545-8522 Japan

Tel; 06-6621-1221 Fax; 06-6628-1653

E-mail;

URL; <http://www.sharp.co.jp>

Category:

- B1. Recyclability
- B2. Longevity
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving

This copier has our unique automatic identification function for sorting original copies.

<Energy saving> It is equipped with a pre-heating function that lowers the fixing temperature during waiting time, leading to reduced running cost.

<Green materials> We applied lead-free solder to main boards and chromium-free steel plate to the chassis and other parts. We also used lead-free power cord/wire harness. Packaging materials are made from cardboard (suitable for recycling) rather than foam polystyrene.



Products/Model :
Multifunction Digital Copier AR-C261S

Eco-products No.0085

OA / IT Equipments

Scanner

Canon CanoScan LiDE 80 : Energy Saving, For Personal, Scanner

Canon Inc.

16-1, Shimonoge 3-chome, Takatsu-ku, Kawasaki-shi, Kanagawa,
213-8512 Japan

Tel; 044-811-2111 Fax; 044-811-9371

E-mail; koike.motoshi@canon.co.jp

URL; <http://canon.jp/>

Category:

- A1. Global Warming
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

With the introduction of the following energy-saving technologies, both operating and stand-by power consumption have been substantially reduced.

- (1) Uses a sleep-synchronous system that shuts off power supply to image reading /motor systems during PC sleep.
- (2) Uses a low-power LED read sensor from conventional fluorescent lamps as a high-sensitivity CIS system.

These energy-saving technologies have reduced daily power consumption by around 88 % in comparison with a conventional machine.



Products/Model :
Canon CanoScan LiDE 80

Eco-products No.0086

OA / IT Equipments

Digital stencil duplicator

Energy-saving digital stencil duplicator for schools and offices

DUPLO CORPORATION

Duplo Buildind, 1-6 Oyama 4, Sagamihara, Kanagawa 229-1180, Japan

Tel; 042-775-3600 Fax; 042-775-3636

E-mail; info@duplo.co.jp

URL; <http://www.duplo.com>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B1. Recyclability
- B2. Longevity
- B5. Energy Saving

Since this digital stencil duplicator does not require heat during its printing process, it can be used immediately after switch on. Power consumption required, other than for printing, is minimal and a large number of prints can be produced from one original. These features contribute to major energy savings. Power consumption is also reduced during stand-by mode and an Auto shut off mode shuts down the power when the machine is not in use for a certain period of time. In producing the machine, priority has been given to materials which can be recycled.



Products/Model :
Duprinter Series DP-460e,440e,430e,340e,330e

Eco-products No.0087

OA / IT Equipments

Digital stencil duplicator

Energy-saving digital stencil duplicator for schools and offices

DUPLO CORPORATION

Duplo Building, 1-6 Oyama 4, Sagami-hara, Kanagawa 229-1180, Japan

Tel; 042-775-3600 Fax; 042-775-3636

E-mail; info@duplo.co.jp

URL; <http://www.duplo.com>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B1. Recyclability
- B2. Longevity
- B5. Energy Saving

Since this digital stencil duplicator does not require heat during its printing process, it can be used immediately after switch on. Power consumption required, other than for printing, is minimal and a large number of prints can be produced from one original. These features contribute to major energy savings. Main materials used in the machine have been selected with recycling in mind.



Products/Model :

DDuprinter Series DP-21S, 23S, 24S

Eco-products No.0088

OA / IT Equipments

Recycled ink cartridge

Environmentally-friendly recycled product for general consumers

Jit Co., Ltd.

371-7, Toda, Minami Alpous-city, Yamanashi, 400-0414 Japan

Tel; 055-280-8105 Fax; 055-280-8103

E-mail; jit@olive.ocn.ne.jp

URL; <http://www.jit-c.co.jp>

Category:

- B1. Recyclability
- B3. Resource Saving
- B7. Usage of Recycled Material
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

We reclaim used printer cartridges which would otherwise be disposed of. They are collected in boxes from stores and they are then rinsed and refilled with ink for resale as recycled products.



Products/Model :

Ecorica

Eco-products No.0089

OA / IT Equipments

Personal computer

Energy-efficient personal computer for office use

Logitec Corporation

Yasukuni-Kudan-Minami Bldg 3-14, Kudan-Minami 2-Chome, Chiyoda-ku, Tokyo 102-0074 Japan

Tel; 03-3514-1421 Fax; 03-3514-1420

E-mail;

URL; <http://www.logitec.co.jp/>

Category:

- A4. Waste
- B4. Higher Quality
- B5. Energy Saving
- B7. Usage of Recycled Material
- C6. End-of-Life

This personal computer includes a high-performance processor and features high energy efficiency, making it extremely cost-effective. There are no metal parts embedded in the mold unit, making it easy to recycle. Environmental impact is reduced by using packing boxes made from 40% recycled paper and printed with bean ink.



Products/Model :
LPC-PF34GTA/B

Eco-products No.0090

OA / IT Equipments

Personal computer

Power-saving personal computer with reduced running noise

NEC Personal Products, Ltd.

1-11, Osaki 1-chome, Shinagawa-ku, Tokyo, 141-0032 Japan

Tel; 03-6479-5500 Fax;

E-mail;

URL; <http://www.necp.co.jp/>

Category:

- A3. Hazardous Substance
- B3. Resource Saving
- B5. Energy Saving
- B7. Usage of Recycled Material
- C5. Product Use, Maintenance and Repair

This all-in-one PC takes up no more space than an LCD and offers excellent energy savings. Its energy consumption is around 62% less than our current PC thanks to a CPU that uses less power, conversion of power into AC adapter etc. Its energy-saving design controls heating and does not use a fan, leading to the reduction of noise levels to around 20dB (equivalent to the sound level of touching leaves). It also reduces the environmental burden by using non-halogen plastic or recycled plastic for the chassis, lead-free solder for component mounting to the printed board and a hexavalent-chromium-free steel sheet for internal chassis.



Products/Model :
Mate MY11F/FR-E MY11F/FE-E

Eco-products No.0091

OA / IT Equipments

Personal Computer

Quiet water-cooled personal computer

NEC Personal Products, Ltd.

1-11, Osaki 1-chome, Shinagawa-ku, Tokyo, 141-0032 Japan

Tel; 03-6479-5500 Fax;

E-mail;

URL; <http://www.necp.co.jp/>

Category:

- A3. Hazardous Substance
- B3. Resource Saving
- B4. Higher Quality
- B7. Usage of Recycled Material
- C5. Product Use, Maintenance and Repair

Using a PC causes the CPU to generate heat. This was traditionally cooled with a fan, but this contributed to the PC's inherent noise. We lowered PC's noise to about 30dB by introducing the world's first water-cooled system into a desktop PC. Furthermore, lead-free soldering was used for the PCB while recycled plastics and hexavalent chromium-free steel plate were used for the chassis to reduce environmental impact.



Products/Model :

VALUESTAR TZ VZ980/9E VZ780/9D
VZ500/9D

Eco-products No.0092

OA / IT Equipments

Personal Computer

VERSA E2000: Eco personal computer

NEC Personal Products, Ltd.

1-11, Osaki 1-chome, Shinagawa-ku, Tokyo, 141-0032 Japan

Tel; 03-6479-5500 Fax;

E-mail;

URL; <http://www.necp.co.jp/>

Category:

- A3. Hazardous Substance
- B3. Resource Saving
- B5. Energy Saving
- B7. Usage of Recycled Material
- C5. Product Use, Maintenance and Repair

There is worldwide demand for ECP products that comply with European RoHS Directive and eliminate hazardous substances. In VERSA E2000, lead-free soldering is used for the PCB while hexavalent chromium-free steel plate is used for an internal chassis. In addition, halogen-free and recycled plastics are used for the chassis to reduce environmental impact. (New material, non-phosphorus plastic is used for LCD bezel and DIMM cap)



Products/Model :

VERSA VERSA E2000

Eco-products No.0093

OA / IT Equipments

PC

PC: Earth-conscious and office environment-conscious PCs for business users

NEC Corporation

7-1, Shiba 5-chome, Minato-ku, Tokyo 108-8001 Japan

Tel; 03-3798-6617 Fax; 03-3798-9186

E-mail;

URL; <http://www.nec.com/>

Category:

- B1. Recyclability
- B5. Energy Saving
- B7. Usage of Recycled Material
- C1. Material Extraction
- C3. Design and Material Selection

- Use environmentally conscious parts, such as lead-free soldering for all parts loaded on the motherboard
- Use hexavalent chromium free plating for casings
- Use recycled plastics with non-halogen, non-phosphorus flame retardant



Products/Model :
Fanless PC, MY 11F/FR-E

Eco-products No.0094

OA / IT Equipments

PC

PC: Earth-conscious and office environment-conscious PCs for business users

NEC Corporation

7-1, Shiba 5-chome, Minato-ku, Tokyo 108-8001 Japan

Tel; 03-3798-6617 Fax; 03-3798-9186

E-mail;

URL; <http://www.nec.com/>

Category:

- B1. Recyclability
- B5. Energy Saving
- B7. Usage of Recycled Material
- C1. Material Extraction
- C3. Design and Material Selection

- Use environmentally conscious parts, such as lead-free soldering for all parts loaded on the motherboard
- Use hexavalent chromium free plating for casings
- Use recycled plastics with non-halogen, non-phosphorus flame retardant



VERSA E2000

Eco-products No.0095

OA / IT Equipments

Desktop PC

Eco-friendly desktop computer

Fujitsu Limited

4-1-1 Kamikodanaka, Nakahara-ku, Kawasaki-shi, Kanagawa
211-8588 (Kawasaki Research & Manufacturing Facilities) Japan
Tel; 044-754-3413 Fax; 044-754-3326
E-mail; ecobox@fujitsu.com
URL; <http://jp.fujitsu.com/> <http://www.fujitsu.com/>

Category:

- A3. Hazardous Substance
- A5. Resource Consumption
- B1. Recyclability
- B3. Resource Saving
- C3. Design and Material Selection

Based on our green product development policy, the body of this product incorporates both chrome-free steel plates that do not contain toxic hexavalent chromium and halogen-free resins which do not emit dioxin when incinerated. Recycled plastic is also used in its body and it is designed for effective utilization of limited resources and energy saving. This product registered with the International Energy Star Program and conforms to the Law on Promoting Green Purchasing and the PC Green Label System.



Products/Model :

FMV-E625 FMVE21D130

Eco-products No.0096

OA / IT Equipments

Desktop PC

Eco-friendly desktop computer

Fujitsu Limited

4-1-1 Kamikodanaka, Nakahara-ku, Kawasaki-shi, Kanagawa
211-8588 (Kawasaki Research & Manufacturing Facilities) Japan
Tel; 044-754-3413 Fax; 044-754-3326
E-mail; ecobox@fujitsu.com
URL; <http://jp.fujitsu.com/> <http://www.fujitsu.com/>

Category:

- A3. Hazardous Substance
- B1. Recyclability
- B5. Energy Saving
- B7. Usage of Recycled Material
- C3. Design and Material Selection

Fujitsu's proprietary 3D CAD design support tool (software) enabled a reduction of materials and components for product development. By reducing the number of screws in half, cut in the time of degradability of products, recycling efficiency and resource saving of metals are brought to fruition. This product incorporates both chrome-free steel plate that do not contain toxic hexavalent and halogen-free resins which do not emit dioxin.



Products/Model :

ETERNUS6000 Model400 E640S01A, Model600
E660S01A, Model800 E680S01A, Model1000 E6A0S01A,

Eco-products No.0097

OA / IT Equipments

Super Computer

Super Computer: Eco-friendly, available to analyze/forecast global climate change

NEC Corporation

7-1, Shiba 5-chome, Minato-ku, Tokyo 108-8001 Japan

Tel; 03-3798-6617 Fax; 03-3798-9186

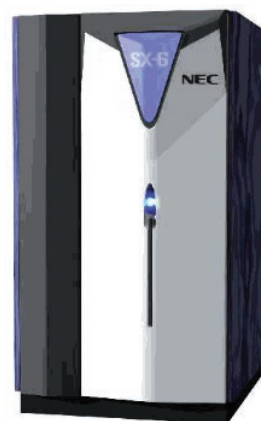
E-mail;

URL; <http://www.nec.com/>

Category:

- B4. Higher Quality
- B5. Energy Saving
- B7. Usage of Recycled Material
- C1. Material Extraction
- C3. Design and Material Selection

- Reduce the standard electric power per performance
- Use hexavalent chromium free steel sheet for chassis of products
- Design for space-saving, weight saving



Products/Model :
SX-6

Eco-products No.0098

OA / IT Equipments

PC Server

PC Server: Improved performance and energy-saving, designed for business users

NEC Corporation

7-1, Shiba 5-chome, Minato-ku, Tokyo 108-8001 Japan

Tel; 03-3798-6617 Fax; 03-3798-9186

E-mail;

URL; <http://www.nec.com/>

Category:

- B4. Higher Quality
- B5. Energy Saving
- B7. Usage of Recycled Material
- C1. Material Extraction
- C3. Design and Material Selection

- Reduce the standard electric power compared with conventional products
- Reduce space to install and product weight compared with conventional products
- Reduce lead use amount
- Design for easy dismantling with common industrial tools



Products/Model :
Express Server 5800/120Mf

Eco-products No.0099

OA / IT Equipments

Book-sized personal computer

Eco-friendly laptop computer

Fujitsu Limited

4-1-1 Kamikodanaka, Nakahara-ku, Kawasaki-shi, Kanagawa 211-8588
(Kawasaki Research & Manufacturing Facilities) Japan
Tel; 044-754-3413 Fax; 044-754-3326
E-mail; ecobox@fujitsu.com
URL; <http://jp.fujitsu.com/> <http://www.fujitsu.com/>

Category:

- A3. Hazardous Substance
- B1. Recyclability
- B5. Energy Saving
- B7. Usage of Recycled Material
- C3. Design and Material Selection

Based on our green product development policy, the body of this product incorporates magnesium alloy and recycled plastic from our used products. It also reduces toxic substances thanks to the use of halogen-free resins which do not emit dioxin when incinerated. Lead-free solder is used in its production and it is designed to be energy saving. Its environmental data (covering the processes from design of new products to the collection of used products) is released to the public, and the company holds the "ECO-LEAF" Environmental Label.



Products/Model :
FMV-7100MT5 FMV5MTBL3

Eco-products No.0100

OA / IT Equipments

Computer Mouse

Personal computer mouse made from recycled ABS

KOKUYO Co., Ltd.

6-1-1, Oimazato-Minami Higashinari-ku, Osaka, 537-8686 Japan
Tel; 06-6973-9202 Fax; 06-6973-9374
E-mail;
URL; <http://www.kokuyo.co.jp>

Category:

- A3. Hazardous Substance
- B1. Recyclability
- B7. Usage of Recycled Material
- C4. Product Manufacture
- C6. End-of-Life

- Recycled ABS material is used for 80% of the product body. In addition, the user manual and packaging paper use 100% recycled paper.
- Non-vinyl chloride materials (PU), which do not emit toxic gases when burned, are used for cable jackets and USB connecting parts.
- Lead-free solder is used for USB connector terminals and between cables and boards.



Products/Model :
USB&PS/2Mouse EAM-UE1C

Eco-products No.0101

OA / IT Equipments

Storage

Storage: Compact, lightweight and energy-saving, designed for business users

NEC Corporation

7-1, Shiba 5-chome, Minato-ku, Tokyo 108-8001 Japan

Tel; 03-3798-6617 Fax; 03-3798-9186

E-mail;

URL; <http://www.nec.com/>

Category:

- B1. Recyclability
- B4. Higher Quality
- B5. Energy Saving
- B7. Usage of Recycled Material
- C3. Design and Material Selection

- Reduce the standard electric power compared with conventional products
- Reduce space to install and product weight compared with conventional products
- Reduce lead use amount
- Design for easy dismantling with common industrial tools



Products/Model :
iStorage NV821X

Eco-products No.0102

OA / IT Equipments

Wireless Broadband Router

Wireless Broadband Router: Easy dismantling, designed for private users

NEC Corporation

7-1, Shiba 5-chome, Minato-ku, Tokyo 108-8001 Japan

Tel; 03-3798-6617 Fax; 03-3798-9186

E-mail;

URL; <http://www.nec.com/>

Category:

- B1. Recyclability
- B5. Energy Saving
- B7. Usage of Recycled Material
- C1. Material Extraction
- C3. Design and Material Selection

- Easy dismantling designed products, such as if a screw would be unscrewed, all the parts could be dismantled.
- With the expansion of ADSL and optic fiber, the products would improve the product performance and energy saving at a same time.



Products/Model :
Aterm WR7600H

Eco-products No.0103

OA / IT Equipments

External Power-saving Device for Fax

Fax power-saving device with zero stand-by power

NTT Advanced Technology Corporation

Neocity Mitaka Bldg. 7F, 3-35-1, Shimorenjaku, Mitaka-city, Tokyo,
181-0013, Japan

Tel; 0422-47-7842 Fax; 0422-40-1103

E-mail; kankyou@neo.ntt-at.co.jp

URL; <http://www.keytech.ntt-at.co.jp/>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

“Setsudenmushi” is a compact and lightweight device that connects to the power and communication wires of a fax. Stand-by power accounts for most of the power used by a fax and this device can reduce that to zero. The “Setsudenmushi” sensors can detect receiving and transmitting signals and automatically turns on the power switch. It can also sense completion of a printout after a transmission and turns the power off again. According to actual measurement and life cycle assessment, it can reduce the power consumption and CO₂ emission of a fax by 80%.



Products/Model :

Power-saving product for facsimiles SKM-G3S

Eco-products No.0104

OA / IT Equipments

OMR (Mark Sheet Reader)

OMR for schools and companies: Recycled paper and materials, power conservation

SEKONIC CORPORATION

7-24-14, Oizumi-Gakuen-cho, Nerima-ku, Tokyo, 178-8686 Japan

Tel; 03-3978-2335 Fax; 03-3922-2144

E-mail; omr@sekonic.co.jp

URL; <http://www.sekonic.co.jp>

Category:

- B1. Recyclability
- B2. Longevity
- B5. Energy Saving
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

- Supports recycled OCR paper (Content: 50%)
- Equipped with power saving mode for energy conservation (50% power savings in comparison with our conventional machine).
- Material names are specified on exterior and resin parts to allow easy recycling of spent materials.
- Recyclable corrugated paper packaging materials.
- Produced by companies holding ISO 14001 certification.
- Product registered on information plaza for green purchasing.



Products/Model :

Optical Mark Reader • SR-5500

Eco-products No.0105

OA / IT Equipments

Printing Plate Materials

Toray Waterless Plate & Toray Waterless CTP Plate

Toray Industries, Inc.

Toray Bldg., 2-1, Nihonbashi-Muromachi 2-chome, Chuo-ku, Tokyo,
103-8666 Japan

Tel; 03-3245-5179 Fax; 03-3245-5459

E-mail;

URL; <http://www.toray.co.jp>

Category:

● A3. Hazardous Substance

Conventional offset printing requires dampening water containing substances that could increase environmental loads, such as etch solution and isopropyl alcohol (IPA). The Toray Waterless Plate* is an innovative printing material that allows offset printing without using dampening water, thus eliminating the generation of harmful waste fluid. In addition, the Toray Waterless CTP Plate* obviates the need to produce original picture film which is used in the conventional plate making process. Instead, digitized data is exposed by applying laser light directly onto the plate surface. Eliminating the need for films helps to conserve resources, and no waste fluid is discharged during the film developing or printing stages.



Eco-products No.0106

OA / IT Equipments

Monochrome Laser Printer

Resource and energy-saving compact monochrome laser printer

Konica Minolta Business Technologies, Inc.

1-6-1 Marunouchi 1-chome, Chiyoda-ku, Tokyo, 100-0005 Japan

Tel; 03-6250-2390 Fax; 03-3218-1386

E-mail; hideaki.takagi@konicaminolta.jp

URL; <http://konicaminolta.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving
- C3. Design and Material Selection

Konica Minolta gives priority to product downsizing, since this conserves resources at the manufacturing stage, curtails energy use at the product delivery stage, and reduces environmental impact when products are discarded. For example, Konica Minolta's laser printer, PagePro 1300W, (launched in Feb 2004) is approximately 28% smaller in size and approximately 13% lighter in weight compared with a conventional Konica Minolta model.



Products/Model :
PagePro 1300W

Eco-products No.0107

OA / IT Equipments

Printer

Fast, Compact Printer for Home Office/Small Office

Canon Inc.

30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, 146-8501 Japan

Tel; 03-3758-2111 Fax; 03-3758-1160

E-mail;

URL; <http://canon.jp/>

Category:

- A1. Global Warming
- B5. Energy Saving
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

On-demand fixing technology which requires no residual heat for the fixing unit provides energy-efficiency and quick-start of zero warm-up during standby mode. It is completely silent in standby mode due to its fan-less design, and quiet during printing.



Products/Model :
Laser Beam Printer, LBP-1120

Eco-products No.0108

OA / IT Equipments

Printer

Printer resistible to 500times- iterative printing on single paper (Ecopri)

Oki Electric Industry Co., Ltd.

1-7-12, Toranomon, Minato-ku, Tokyo 105-8460, Japan

Tel; 03-3501-3111 Fax;

E-mail;

URL; <http://www.oki.com/jp/>

Category:

- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C1. Material Extraction

Ordinary printer does not permit delete of letters which is printed on OA paper with toner or ink. With this "Ecopri," however, rethermal paper is used, which makes it possible to delete the printed letters and reuse the paper for printing new content. For practical use, this printer can reprint letters on the same sheet of paper roughly 500 times, making the quantity of paper used "practically none." Further, since consumables such as toner and ink are not required, waste materials are not generated. When the rethermal paper is heated, the color changes to black, and slowly cooling the paper, it changes the color to white again. It is the iterative printing method making use of this property.



エコプリ仕様
記録方式 : サーマル転写方式
用紙サイズ : 縦長A4サイズ
素 材 : 再生紙 (50%以上)
印字速度 : 200dpi
印字密度 : 8割 - A4
紙の厚さ : 500g
記録方式 : ヒートローラー方式
お問い合わせ先 eco-ok@oki.com

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-products No.0109

OA / IT Equipments

Inkjet Printer

Canon i80 Inkjet printer : Energy Saving, For Home and Office

Canon Inc.

16-1, Shimonoge 3-chome, Takatsu-ku, Kawasaki-shi, Kanagawa,
213-8512 Japan

Tel; 044-811-2111 Fax; 044-811-9371

E-mail; koike.motoshi@canon.co.jp

URL; <http://canon.jp/>

Category:

- A1. Global Warming
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

With the introduction of the following energy-saving technologies, power-off and stand-by power consumption have been substantially reduced.

(1) External mains low-power mode control system

(2) Shut-off power supply to a printer control part

(3) Clock stop to logic circuit

With the introduction of these energy-saving technologies, daily power consumption has been reduced by about 80 %, in comparison with Canon's conventional machine.



Products/Model :
Canon i80

Eco-products No.0110

OA / IT Equipments

Inkjet Printer

Canon i560 Inkjet printer : Uses recycled plastic, For Home and Office,

Canon Inc.

16-1, Shimonoge 3-chome, Takatsu-ku, Kawasaki-shi, Kanagawa
213-8512, Japan

Tel; 044-811-2111 Fax; 044-811-9371

E-mail; koike.motoshi@canon.co.jp

URL; <http://canon.jp/>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C6. End-of-Life

Using general plastic (HIPS [flame-retardant grade: HB]) as raw materials, a technology was developed which upgrades the general plastic to m-PPE, higher flame-retardant grade engineering plastic. The technology realized a high-value-added plastic recycling system. Recycled plastic from this system is used to cover the power supply unit.



Products/Model :
Canon i560

Eco-products No.0111

OA / IT Equipments

Inkjet Printer

Canon i865 Inkjet printer : Energy Saving, For Home and Office

Canon Inc.

16-1, Shimonoge 3-chome, Takatsu-ku, Kawasaki-shi, Kanagawa,
213-8512 Japan

Tel; 044-811-2111 Fax; 044-811-9371

E-mail; koike.motoshi@canon.co.jp

URL; <http://canon.jp/>

Category:

- A1. Global Warming
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

With the introduction of the following energy-saving technologies, daily power consumption was reduced by about 76%, compared with Canon's conventional machine.

- (1) Clock stop to logic circuit
- (2) Low-power mode control system
- (3) Introduction of synchronous rectification DC/DC converter
- (4) Improvement of firmware

These energy-saving technologies substantially reduced both power-off and stand-by power consumption.



Products/Model :
Canon i865

Eco-products No.0112

OA / IT Equipments

Ink jet printer

Color ink jet printer with low power consumption

SEIKO EPSON CORPORATION

3-3-5 Owa, Suwa-shi, Nagano-ken, 392-8502 JAPAN

Tel; 0266-58-0416 Fax; 0266-58-9584

E-mail; eco@exc.epson.co.jp

URL; <http://www.epson.co.jp>

Category:

- B1. Recyclability
- B5. Energy Saving
- B7. Usage of Recycled Material
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

1. As a result of energy-saving functions during power-off, Standby and low-power mode, it uses less daily power than the company's previous model, PM-770C.
2. A high recyclable ratio of 80% is achieved through various recycle-conscious designs.
3. The product has chromium-free steel plates and lead-free soldered boards.
4. The inks used offer improved light and water resistance ensuring lasting, quality print-outs.



Products/Model :
Colorio PX-G900 (Japan Model)

Eco-products No.0113

OA / IT Equipments

Ink-jet Printer

IPSiO G505/707: Best productivity, more duplex prints, more paper-saving

Ricoh Company, Ltd.

1-15-5, Minami-Aoyama, Minato-ku, Tokyo, 107-8544 Japan

Tel; 03-5411-4404 Fax; 03-5411-4410

E-mail; envinfo@ricoh.co.jp

URL; <http://www.ricoh.co.jp/ecology/>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving

Paper environmental impact generated from a printing is a second contributor to the impact in a lifecycle of printer products. IPSiO G505/707 enabled fast two-sided printing by employing fast dry GELJET viscous ink and eliminating drying time. This two-sided printing can be expected to substantially reduce paper resources.



Products/Model :

IPSiO G505/707 (Japanese market only)

Eco-products No.0114

OA Furniture

Inkjet printer paper

The rate of used paper combination, Ink jet printer ⇒ Printing papers made of recycled waste paper

KOKUYO Co., Ltd.

6-1-1, Oimazato-Minami Higashinari-ku, Osaka, 537-8686 Japan

Tel; 06-6973-9202 Fax; 06-6973-9374

E-mail;

URL; <http://www.kokuyo.co.jp>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C1. Material Extraction
- C4. Product Manufacture

- Eco-friendly: Compound ratio of waste paper is increased to 100%, while the coating layer is reduced down to 12 g/m², allowing the product to conform with recycling regulations.
- Clear printing: Since the surface coating of the paper uses a special processing technique, clear printing is achieved for both documents and pictures.



Products/Model :

INK-JET PRINTER PAPER KJ-S1110

Eco-products No.0115

OA Furniture

Inkjet Printing Paper

Printing paper made from used paper and sustainable woods for “sustainability”

Nippon Paper Industries Co., Ltd.

1-12-1, Yuraku-cho, Chiyoda-ku, Tokyo 100-0006 Japan

Tel; 03-3218-8048 Fax; 03-3213-5455

E-mail; joho@npaper.co.jp

URL; <http://www.npaper.co.jp>

Category:

- A1. Global Warming
- B7. Usage of Recycled Material
- C1. Material Extraction
- C2. Material and Components Production
- C4. Product Manufacture

Industrial tree plantations have a secondary effect of absorbing carbon dioxide. Focusing on this, we use afforested wood that has been properly grown and controlled, in combination with certified chips. In addition, the paper is produced in ISO14001-certified plants using elementary chlorine-free bleaching in the pulp bleaching process, therefore our "IMAGEA" product helps to reduce environmental impact.



Products/Model :
imagea

Eco-products No.0116

OA Furniture

Inkjet Printing Paper

Printing paper made from used paper and sustainable woods for “sustainability”

Nippon Paper Industries Co., Ltd.

1-12-1, Yuraku-cho, Chiyoda-ku, Tokyo 100-0006 Japan

Tel; 03-3218-8048 Fax; 03-3213-5455

E-mail; joho@npaper.co.jp

URL; <http://www.npaper.co.jp>

Category:

- A1. Global Warming
- B7. Usage of Recycled Material
- C1. Material Extraction
- C2. Material and Components Production
- C4. Product Manufacture

Industrial tree plantations have a secondary effect of absorbing carbon dioxide. Focusing on this, we use afforested wood that has been properly grown and controlled, in combination with certified chips. In addition, our 'FCP-UP' product is produced in ISO14001-certified plants using elementary chlorine-free bleaching in the pulp bleaching process, making it environmentally-friendly.



Products/Model :
FCP-UP

Eco-products No.0117

OA Furniture

Colored Paper

Pale-colored paper containing recycled paper without damaging printability and strength

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C4. Product Manufacture

“Saisei Color” is made from pulp consisting of 100% used paper, it is due to the primary object of development to create a product consistent with forest protection. This is environment-friendly colored paper for envelope, approved by the Eco Mark Office.



Products/Model :
Saisei Color

Eco-products No.0118

OA Furniture

Colored Paper

Posh pastel-toned color paper containing used paper with soft texture

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C4. Product Manufacture

“Halftone Color” was approved by the Eco Mark Office. Its raw material consists of 70% of used paper and 30% of green pulp (not chlorine bleached)*, so it is an environment-conscious product of which “eco ratio (the procurement ratio of environment friendly material)” is 100%. *green pulp (not chlorine bleached): the pulp produced with “the ECF (Elementary chlorine Free) method” to avoid the risk of generating hazardous organic-chlorinated substance such as dioxin.



Products/Model :
Halftone Color

Eco-products No.0119

OA Furniture

Colored Paper

Green recycled paper (Fancy Paper) available in twenty-two pastels

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C4. Product Manufacture

"Saisei 21" is an environment-conscious colored paper approved by the Eco Mark Office, of which "eco ratio (the procurement ratio of environment friendly material)" is 100%, containing used paper for 70% and green pulp (not chlorine bleached)* for 30%. *green pulp (not chlorine bleached): the pulp produced with "the ECF (Elementary chlorine Free) method" to avoid the risk of generating hazardous organic-chlorinated substance such as dioxin.



Products/Model :

Saisei 21

Eco-products No.0120

OA Furniture

Printing paper for calendars

Kony Kent as top brand kent paper

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004 Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C4. Product Manufacture

Top brand kent paper, Kony Kent, is widely deployed for various uses such as calendars, posters, catalogues, and books.

The paper is environment-conscious product made from 100% eco-friendly materials, using 50% of waste paper and 50% of green pulp (chlorine-free bleached pulp). The pulp is produced with "ECF" (Elementary Chlorine Free method) to prevent emission of toxic organic-chlorine compounds such as dioxin.



Products/Model :

Kony Kent

Eco-products No.0121

OA Furniture

Printing paper for calendars

High quality printing paper with strength and resilience Odin

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004 Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C4. Product Manufac

This paper is environment-conscious product made from 100% eco-friendly materials (approved as Eco Mark Product by Eco Mark Committee), which consists of 70% of waste paper and 30% of green pulp (chlorine-free bleached pulp). The pulp is produced with "ECF" (Elementary Chlorine Free method) to prevent emission of toxic organic-chlorine compounds such as dioxin.



Products/Model :
Odin

Eco-products No.0122

OA Furniture

Printing paper for calendars

High quality ink-jet paper for two-side printing Good Print-IJ

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004 Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C4. Product Manufacture

This paper is environment-conscious product made from 100% eco-friendly materials (approved as Eco Mark Product by Eco Mark Committee), which consists of 70% of waste paper and 30% of green pulp (chlorine-free bleached pulp). The pulp is produced with "ECF" (Elementary Chlorine Free method) to prevent emission of toxic organic-chlorine compounds such as dioxin.



Eco-products No.0123

OA Furniture

Colored Wrapping/Drawing/Construction Papers

Beautifully colored paper containing used paper, "New Color R Series"

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C4. Product Manufacture

The letter "R" you can see in all product's name in this series is the initial letter of "Recycle". "New Color R Series" consists of 70% of used paper, 20% of green pulp (not chlorine bleached)*, and 10% of nonwood pulp, which means that "eco ratio (the procurement ratio of environment friendly material)", is 100%. It was given certifications as eco-friendly product by multiple organizations such as "the Eco Mark" certified by the Eco Mark Office of the Japan Environment Association, "the Nonwood Paper Mark" by the nonwood paper diffusion association, "the Green Mark" by the Green Mark Executive Committee of the Paper Recycling Promotion Center.

*green pulp: the pulp produced with "the ECF (Elementary chlorine Free) method" to avoid the risk of generating hazardous organic-chlorinated substance such as dioxin.



Products/Model :

New Color R. High New Color R. New Color W Kraft R

Eco-products No.0124

OA Furniture

Wrapping Paper

Recyclable damp-proof packing paper

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C4. Product Manufacture

Damp-proof packing paper is a paper, the surface of which has received the filling processing with a recyclable coating material.

Although the polyethylene laminated paper is also damp-proof, it is difficult to be recycled. On the other hand, the damp-proof packing paper has the performance of the same level as that of the polyethylene laminated paper, despite that it is a recyclable product.



Products/Model :

Recyclable packing paper which is dampproof

Eco-products No.0125

OA Furniture

Dust-free Paper

“Clean paper”, recyclable high-quality paper suppressing dust generation

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

“Clean paper” is a high-performance paper which does not almost produce the dust. And, the paper has the excellent qualities for writing, printing and PPC. When it is wrinkled or crumpled, it emits very fine dust particles, diameter of which are less than 0.1 μm . It is made mainly from pure natural pulp, and after having been used, it becomes a used paper with a quality of easily recyclable grade.



Products/Model :
Clean paper

Eco-products No.0126

OA Furniture

Recycling system for paper

Recycling system suitable for confidential documents

Hitachi Information Systems, Ltd.

1-16-5, Dogenzaka, Shibuya-ku, Tokyo, 150-8540 Japan

Tel; 03-3464-5110 Fax; 03-3780-6891

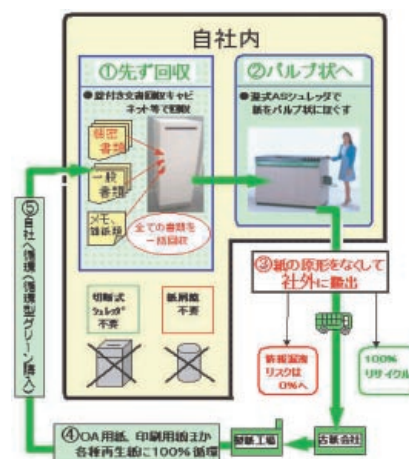
E-mail;

URL; <http://www.hitachijoho.com/>

Category:

- A4. Waste
- B1. Recyclability
- B3. Resource Saving
- B7. Usage of Recycled Material
- C6. End-of-Life

This system allows confidential documents and other papers to be safely recycled. Documents are collected in a locked collecting cabinet and the paper is then converted into pulpy material at the company's premises. The original document information is erased making this system suitable for confidential papers. The recycled paper can be used as office or printing paper making it an excellent green product.



Products/Model :
High Security Closed-Loop System

Eco-products No.0127

OA Furniture

Table

Table made from agricultural waste

Itoki Co., Ltd.

3-6-14 Irifune, Chuo-ku, Tokyo, 104-0042 Japan

Tel; 03-3206-6011 Fax; 03-3206-6020

E-mail; eco@star.itoki.co.jp

URL; <http://www.itoki.co.jp/>

Category:

- A3. Hazardous Substance
- A4. Waste
- B3. Resource Saving
- B7. Usage of Recycled Material
- C3. Design and Material Selection

- This table features a table top made from non-wood agricultural waste, which contributes to resource recycling and waste reduction.
- The table top materials do not release toxic VOCs (Volatile Organic Compounds) such as formaldehyde.
- No hazardous substance is released when the table top is incinerated and it can be disposed of by alternative means since it is made from natural materials. Recycling as the same material is also possible.
- Easy-to-recycle aluminum is used for the legs.



Products/Model :

DEC-1897B-01

Eco-products No.0128

OA Furniture

Connecting table for lecture room

Student chair/desk

Okamura Corporation

Tenri Bldg., Kitasaiwai, Nishi-ku, Yokohama, 220-0004 Japan

Tel; 045-319-3401 Fax; 045-319-3515

E-mail;

URL; <http://www.okamura.co.jp>

Category:

- A3. Hazardous Substance
- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C5. Product Use, Maintenance and Repair

This chair/desk is suitable for lecture room use and helps to keep aisles clear thanks to Okamura's slide structure, which makes it easy to open and close.

The product has been subjected to volatile organic compound (VOC) diffusion measurement in a large scale test chamber (data is available).

The product meets Green Purchasing Law.



Products/Model :

93R11A MH02

Eco-products No.0129

OA Furniture

Table system

Parts-sharing table system

Okamura Corporation

Tenri Bldg., Kitasaiwai, Nishi-ku, Yokohama, 220-0004 Japan

Tel; 045-319-3401 Fax; 045-319-3515

E-mail;

URL; <http://www.okamura.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B2. Longevity
- B7. Usage of Recycled Material
- C6. End-of-Life

Sharing parts materialized "simple structure." It is a very versatile table system for general office use.

Produced by ISO14001 registered division. Arm material, that is easier to recycle, is used as primary material. Utilize recycled materials in a positive manner(Adjuster portion: nylon 50%, post beam cap: ABS 100%)



Products/Model :
DE20AA-MG75

Eco-products No.0130

OA Furniture

Desk system (Eco melamine)

Office desk system incorporating desk, storage and low partition.

Okamura Corporation

Tenri Bldg., Kitasaiwai, Nishi-ku, Yokohama, 220-0004 Japan

Tel; 045-319-3401 Fax; 045-319-3515

E-mail;

URL; <http://www.okamura.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B2. Longevity
- B7. Usage of Recycled Material
- C6. End-of-Life

Produced by ISO14001 registered division. Water paints used.

This three-in-one system uses the following recycled materials: pen tray (PS/100%), horizontal raceway (ABS/100%), central drawer front surface (ABS/70%). The product meets Green Purchasing Law.

This is an excellent product developed using eco-melamine. Used units are reclaimed and melamine decorative laminate is recycled. The top board is also recycled.



Products/Model :
EXPERT • DG20LB MB51

Eco-products No.0131

OA Furniture

Desk system

Eco-friendly MX+ Series office desk system

KOKUYO Co., Ltd.

6-1-1, Oimazato-Minami Higashinari-ku, Osaka, 537-8686 Japan

Tel; 06-6973-9202 Fax; 06-6973-9374

E-mail;

URL; <http://www.kokuyo.co.jp>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B5. Energy Saving
- B7. Usage of Recycled Material
- C4. Product Manufacture

The MX+ Desk system is a standard office desk that incorporates wiring functions and a wide range of options. Reproducible material (reproducible ABS) is used for resin parts such as drawing mirror board and duct cover, allowing the product to be separated for disposal.



Products/Model :
MX+ DESK SYSTEM

Eco-products No.0132

OA Furniture

Office chair

Eco-friendly recycled-resin office chair

Okamura Corporation

Tenri Bldg., Kitasaiwai, Nishi-ku, Yokohama, 220-0004 Japan

Tel; 045-319-3401 Fax; 045-319-3515

E-mail;

URL; <http://www.okamura.co.jp>

Category:

- A1. Global Warming
- A4. Waste
- B2. Longevity
- B7. Usage of Recycled Material
- C6. End-of-Life

Eco Mark product. Produced by ISO14001 registered division.

We use Freon-free foam urethane to help prevent global warming. Adopting variable mold urethane.

It is possible to post-join and upgrade elbows, contributing to longevity with easily renewed parts.

Materialized platform of base/legs.

Recycled materials are used as follows: seat outer shell (PP/50%), back inner shell (PP/50%), base cover (PE/gas pipe/30%). The product meets Green Purchasing Law.



Products/Model :
SX • CS45GS FM92

Eco-products No.0133

OA Furniture

Office chair

Eco-friendly, long life office chair

Okamura Corporation

Tenri Bldg., Kitasaiwai, Nishi-ku, Yokohama, 220-0004 Japan

Tel; 045-319-3401 Fax; 045-319-3515

E-mail;

URL; <http://www.okamura.co.jp>

Category:

- A1. Global Warming
- A4. Waste
- B2. Longevity
- B7. Usage of Recycled Material
- C6. End-of-Life

Eco Mark product. Produced by ISO14001 registered division.
By using Freon-free foam urethane, we help to prevent global warming. Adopting variable mold urethane.

It is possible to post-join and upgrade elbows, contributing to longevity with easily renewed parts.

Materialized platform of base/legs.

Recycled materials are used as follows: seat inner shell (PP/100%); back inner shell (PP/100%), covering material (recycled PET/60%). The product meets Green Purchasing Law.



Products/Model :
Carrozza • CK95GR FS16

Eco-products No.0134

OA Furniture

Office chair

Easy-recyclable Office chair of low-chemical substance

Okamura Corporation

Tenri Bldg., Kitasaiwai, Nishi-ku, Yokohama, 220-0004 Japan

Tel; 045-319-3401 Fax; 045-319-3515

E-mail;

URL; <http://www.okamura.co.jp>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- A4. Waste
- B2. Longevity
- B7. Usage of Recycled Material

This office chair uses no adhesive at all and discharges low-chemical substances. It has a patterned material and is designed for ease of recycling.

It achieves a decomposition rate of about 85% thanks to reduced parts and fractionation design. The seat cushion is produced with molded urethane and polyester cloth. No adhesive is used to finish the upholstered surface, resulting in easy fractionation. It uses recycled materials (seat frame /PA/50%, back frame /PA/50%) for resin parts as far as possible. It is low maintenance and designed for long term use. It meets the Green Purchasing standard and is an Eco-mark product. Award-winning design. Production undertaken by ISO14001 registered division.

The first office furniture business in Japan to achieve United States' GREEN GUARD environmental criteria.



Products/Model :
Contessa • CM51AB FBH8

Eco-products No.0135

OA Furniture

Revolving chair

Trenza series eco-friendly revolving office chair

KOKUYO Co., Ltd.

6-1-1, Oimazato-Minami Higashinari-ku, Osaka, 537-8686 Japan

Tel; 06-6973-9202 Fax; 06-6973-9374

E-mail;

URL; <http://www.kokuyo.co.jp>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

Trenza is a standard-type revolving office chair. It has a backrest with a suspension structure to softly support the back. Recyclable materials (such as reproducible PP/PA) are used in resin materials for a variety of components including the seat and part of the leg support, which can be separated for recycling on disposal. In addition, the cushioned backrest can be replaced, giving the chair a longer life.



Products/Model :
TRENZA

Eco-products No.0136

OA Furniture

Chair

Long-lasting conference chair with easy parts replacement

SANKEI Co., Ltd.

48, Azasukemachi, Ueno-cho, Suzuka-shi, Mie, 513-0017 Japan

Tel; 0593-78-0465 Fax; 0593-78-3719

E-mail;

URL; <http://www.isu-sankei.co.jp/>

Category:

- B1. Recyclability
- B2. Longevity
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

This chair has been designed for ease-of-use. It is stackable and incorporates armrests and castors. It is also designed to be long-lasting and parts can easily be replaced using just a Phillips screwdriver. Materials were assessed at the design stage for end-of-life issues such as recycling and waste segregation.



Products/Model :
MEETING CHAIR • CM321-MYC

Eco-products No.0137

OA Furniture

Office partition

Lightweight low partition

Okamura Corporation

Tenri Bldg., Kitasaiwai, Nishi-ku, Yokohama, 220-0004 Japan

Tel; 045-319-3401 Fax; 045-319-3515

E-mail;

URL; <http://www.okamura.co.jp>

Category:

- A4. Waste
- B3. Resource Saving
- B4. Higher Quality
- B7. Usage of Recycled Material
- C3. Design and Material Selection

This low partition for office use has a variety of functions to modern office under the system based on human engineering, and also provides sound insulation for privacy and ease-of-concentration.

Produced by ISO14001 registered division.

It is a resource-saving design and the material used includes PET-recycled cloth as standard. Above all, it uses superior steel. The use of insulation board ensures that the product is lightweight and therefore easier to transport. The product meets Green Purchasing Law.



Products/Model :
N8325Y

Eco-products No.0138

OA Furniture

Functional frame system for offices

Kybos, eco-friendly functional frame system for offices

Kokuyo Co., Ltd.

6-1-1, Oimazato-Minami Higashinari-ku, Osaka, 537-8686 Japan

Tel; 06-6973-9202 Fax; 06-6973-9374

E-mail;

URL; <http://www.kokuyo.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

Kybos is a functional frame system for offices. The system consists of a frame with cable laying functions and various options as a white board, partition, shelf, and lighting equipment.

It uses mainly highly recyclable aluminum, not resin materials. Furthermore, the product is not painted so its parts are reproducible, while the product can be separated and classified on disposal. Additionally, the product has a knock down structure, making it less harmful to the environment when distributed as well as less costly when disposed of.



Products/Model :
kybos

Eco-products No.0139

OA Furniture

Storage system

Office storage system incorporating efficient storage (From A3 holder down to A3 width binder)

Okamura Corporation

Tenri Bldg., Kitasaiwai, Nishi-ku, Yokohama, 220-0004 Japan

Tel; 045-319-3401 Fax; 045-319-3515

E-mail;

URL; <http://www.okamura.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B2. Longevity
- B7. Usage of Recycled Material
- C6. End-of-Life

Produced by ISO14001-registered division. The product is designed to be easily recycled. We use recycled materials. For the main steel structure, recycled ABS resin is used and 10% for the grip unit, key functional member. The product meets Green Purchasing Law.



Products/Model :
50MARK II

Eco-products No.0140

OA Furniture

Storage system

A-Gauge Series eco-friendly office storage system

KOKUYO Co., Ltd.

6-1-1, Oimazato-Minami Higashinari-ku, Osaka, 537-8686 Japan

Tel; 06-6973-9202 Fax; 06-6973-9374

E-mail;

URL; <http://www.kokuyo.co.jp>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

The A-Gauge Series is a standard storage system, produced with an emphasis on universal design such as push latch open system and open assist system. Recyclable materials (such as reproducible PP/PA/ABS) are used in resin materials for various components including the tray, inside wall and jointing parts so they can be separated and recycled at disposal. In addition, this product has a knock down structure, making distribution easier and reducing disposal costs.



Products/Model :
A-gauge

Eco-products No.0141

OA Furniture

Furniture

Eco-friendly aluminum-casting furniture

KOKUYO Co., Ltd.

6-1-1, Oimazato-Minami Higashinari-ku, Osaka, 537-8686 Japan

Tel; 06-6973-9202 Fax; 06-6973-9374

E-mail;

URL; <http://www.kokuyo.co.jp>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B5. Energy Saving
- C4. Product Manufacture
- C6. End-of-Life

The furniture is produced using an aluminum die-casting process, which enables its material to be reused.



Products/Model :

XBZ-D1,C1, ETC

Eco-products No.0142

OA Furniture

Diaper Changing Station Series

Diaper Changing Station Series using 100% recycled wood

Combi With Corporation

2-6-7, Motoasakusa, Taito-ku, Tokyo, 111-0041 Japan

Tel; 03-5828-7631 Fax; 03-5828-7630

E-mail; with.bcs@combi.co.jp

URL; <http://www.combiwith.co.jp>

Category:

- A3. Hazardous Substance
- B1. Recyclability
- B3. Resource Saving
- B7. Usage of Recycled Material
- C3. Design and Material Selection

Wood parts are manufactured from recycled wood. We do not use raw materials containing toluene or xylene for the adhesive, decorative paper, serigraph ink etc. The connecting design allows a number of stations to be joined with the minimum of materials. It is assembled on-site, reducing the amount of packaging needed during transportation.



Products/Model :

Angel NS Diaper Changing Station Series

Eco-products No.0143

OA Furniture

Digital Imaging System

Energy & paper saving digital imaging systems capable of 22 or 27 images per minute

Ricoh Company, Ltd.

1-15-5, Minami-Aoyama, Minato-ku, Tokyo, 107-8544 Japan

Tel; 03-5411-4404 Fax; 03-5411-4410

E-mail; envinfo@ricoh.co.jp

URL; <http://ricoh.co.jp/ecology>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving

In the past, the average Energy Star model needed 30 seconds recovery time from energy saver mode to start a copy job, which deterred some customers from using the energy saving function. In addition, the duplex mode was little used since it took longer and was more complicated than the simplex mode. However, these new Ricoh models can save at least 75% more energy compared with previous models, while reducing the recovery time to 10 seconds or less. The duplex speed has also been improved to the best in its class, while ease of use has been improved by a large operation panel and graphic display on Ricoh's own printer driver screen. By making more use of the duplex mode, copy paper can be saved.



Products/Model :

Ricoh Aficio1022/1027/2022/2027/ 2022SP/2027SP

Eco-products No.0144

OA Furniture

Digital Imaging System

Energy & paper saving digital imaging systems capable of 35 & 45 images per minute

Ricoh Company, Ltd.

1-15-5, Minami-Aoyama, Minato-ku, Tokyo, 107-8544 Japan

Tel; 03-5411-4404 Fax; 03-5411-4410

E-mail; envinfo@ricoh.co.jp

URL; <http://ricoh.co.jp/ecology>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving

In the past, the average Energy Star model needed 30 seconds recovery time from energy saver mode to start a copy job, which deterred some customers from using the energy saving function. In addition, the duplex mode was little used since it took longer and was more complicated than the simplex mode. However, these new Ricoh models can save at least 75% more energy compared with previous models, while reducing the recovery time to 10 seconds or less (35ipm models) and 15 seconds (45ipm models). The duplex speed has also been improved to the fastest in its class, while ease of use has been improved through a large operation panel and graphic display in Ricoh's own printer driver screen. By making use of the duplex mode, copy paper can be saved.



Products/Model :

Ricoh Aficio1035/ 1035P/ 1045/ 1045P/
2035/2035SP/2045/2045SP

Eco-products No.0145

OA Furniture

Digital Imaging System

Digital imaging systems with the fastest duplex printing speed in the class of 60 & 75 images per minute

Ricoh Company, Ltd.

1-15-5, Minami-Aoyama, Minato-ku, Tokyo, 107-8544 Japan

Tel; 03-5411-4404 Fax; 03-5411-4410

E-mail; envinfo@ricoh.co.jp

URL; <http://ricoh.co.jp/ecology>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving

Copy paper is the second biggest environmental impact followed by the first low material input in the life cycle of the machine. Especially, the high end machines in this class are used very heavily, and therefore productivity is one of the most important keys to make more duplex copies/prints. Ricoh's unique dual scanning system improves productivity by allowing duplex copies from duplex originals - which means no time is lost in changing documents. These new models also feature improvements that make them easier to use, such as a large operation panel and graphic display in Ricoh's own printer driver screen. By making more use of duplex copies, copy paper can be saved.



Products/Model :

Ricoh Aficio1035/ 1035P/ 1045/ 1045P/
2035/2035SP/2045/2045SP

Eco-products No.0146

OA Furniture

Writing paper

Students' writing paper made from 100% wastepaper pulp

APICA Co., Ltd.

3174 Osawa, Koshigaya-shi, Saitama, 343-0025 Japan

Tel; 048-963-0111 Fax; 048-963-1191

E-mail; kikaku@apica.co.jp

URL; <http://www.apica.co.jp/>

Category:

- B3. Resource Saving
- B7. Usage of Recycled Material
- C2. Material and Components Production

Writing paper: both cover and body consist of 100% pulp made from used paper



Products/Model :

NoteBook/1GWA4,
GWA3 Report Pad/GR121A,
GR101A

Eco-products No.0147

OA Furniture

Notebook

General-use campus student notebook with 100% recycled-paper cover page

KOKUYO Co., Ltd.

6-1-1, Oimazato-Minami Higashinari-ku, Osaka, 537-8686 Japan

Tel; 06-6973-9202 Fax; 06-6973-9374

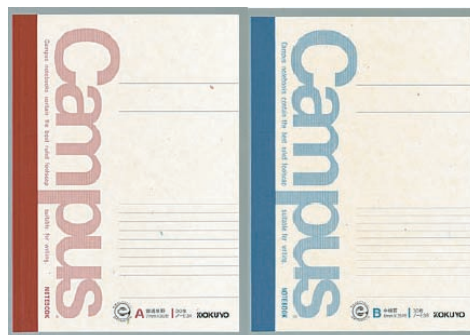
E-mail;

URL; <http://www.kokuyo.co.jp>

Category:

- A5. Resource Consumption
- B3. Resource Saving
- B7. Usage of Recycled Material
- C4. Product Manufacture

This notebook is environment-friendly; its cover page uses 100% waste paper reproduced from package papers of beverages, while its pages contains 80% of recycled papers.



Products/Model :

Campus notebook(made from recycled paper)

Eco-products No.0148

OA Furniture

Window Envelope

“Crystal Window”, glassine paper to be attached to window envelopes

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

“Crystal Window” - this product has been developed in order to promote the recycling of window envelopes by providing them as they are to the recycling system. The material of window is glassine paper which is transparent and made from 100% pure pulp. Reading of a customer's bar code printed on the content is possible through a glassine window.



Products/Model :

Crystal Window

Eco-products No.0149

OA Furniture

Stationery file

Long-life office document file

KING JIM CO., LTD.

10-18, 2-chome, Higashi-Kanda, Chiyoda-ku, Tokyo, 101-0031 Japan

Tel; 0120-79-8107 Fax;

E-mail;

URL; <http://www.kingjim.co.jp/>

Category:

- B1. Recyclability
- B2. Longevity
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

Recycled paper: 100% recycled paper is used for the inner cover board and the spine paper.

Re-use: The mechanism can be attached to the new file cover for re-use, while the old file cover can also be re-used by attaching the preservation mechanism for the storage purpose file.

Long life: Long-term use is possible by replacing the spine paper and featuring the excellent durable file cover.

Olefin material: Use the olefin material that does not emit hydrogen chloride gas.

Classified disposal: Classified disposal is simple, since the mechanism can be removed from the file cover easily.



Products/Model :

KING FILE SUPER DOTCH(attachable/removable)N

Eco-products No.0150

OA Furniture

File

Eco-friendly office tube file <Eco Twin R>

KOKUYO Co., Ltd.

6-1-1, Oimazato-Minami Higashinari-ku, Osaka, 537-8686 Japan

Tel; 06-6973-9202 Fax; 06-6973-9374

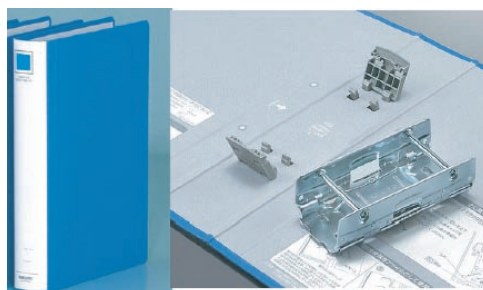
E-mail;

URL; <http://www.kokuyo.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B2. Longevity
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

This recyclable tube file allows the cover page to be replaced and the binding clip to be reused. The cover page is made with PP film eliminating emissions of toxic gases on incineration. It is an environmentally-friendly design and parts can be separated for disposal.



Products/Model :

TUBE FILE<ECO-TWIN R>

Eco-products No.0151

OA Furniture

Transparent holder with sliding rail

Transparent document holder with cover page made from recycled resin

KOKUYO Co., Ltd.

6-1-1, Oimazato-Minami Higashinari-ku, Osaka, 537-8686 Japan

Tel; 06-6973-9202 Fax; 06-6973-9374

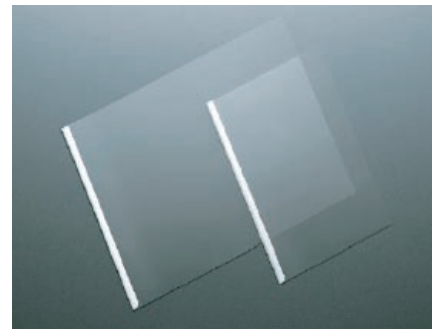
E-mail;

URL; <http://www.kokuyo.co.jp>

Category:

- A5. Resource Consumption
- B3. Resource Saving
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C4. Product Manufacture

This product uses recycled PET resin which has high transparency. It is designed for bulky documents and can bind approximately 40 sheets of paper.



Products/Model :

Rail Clear Holder (made from recycled PET)
TZ-RG15, TZ-RG30N

Eco-products No.0152

OA Furniture

Binding Lace

Environmentally-friendly binding lace for government agencies/offices

Mammoth Co., Ltd. Head Office

2-1-10-163, Yanagibashi, Taito-ku, Tokyo, 111-0052 Japan

Tel; 03-5821-6411 Fax; 03-5821-6442

E-mail;

URL; <http://www.mammoth-g.jp>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B6. Environmental Purification
- B7. Usage of Recycled Material
- C6. End-of-Life

This resource-saving product uses 100% recycled PET and does not discharge any harmful gas on incineration.



Products/Model :

Binding Lace

Eco-products No.0153

OA Furniture

Mechanical pencil

General purpose resource-saving mechanical pencil

MITSUBISHI PENCIL Co., Ltd.

5-23-37, Higashiohi, Shinagawa-ku, Tokyo, 140-8537 Japan

Tel; 03-3458-6222 Fax; 03-3458-6217

E-mail;

URL; <http://www.mpuni.co.jp>

Category:

- B1. Recyclability
- B3. Resource Saving
- B7. Usage of Recycled Material
- C4. Product Manufacture
- C5. Product Use, Maintenance and Repair

This mechanical pencil is longer lasting since it can be used until only 3mm of lead remains. In addition, we make good use of resources by producing the tube and clip from recycled polycarbonate.



Products/Model :

MECHANICAL PENCIL • M5-100Z

Eco-products No.0154

OA Furniture

Mechanical pencil

Eco-friendly mechanical pencil for general use

Platinum Pen Co., Ltd.

2-5-10, Higashi Ueno, Taito-ku, Tokyo 110-8622, Japan

Tel; 03-3831-3412 Fax; 03-3835-7876

E-mail;

URL;

Category:

- B1. Recyclability
- B2. Longevity
- B3. Resource Saving
- B7. Usage of Recycled Material
- C5. Product Use, Maintenance and Repair

This improved pencil can be used until only 0.5mm of lead remains (Previously, lead needed replaced at 12.4mm) In addition to extending its writing life by 20%, it minimizes waste of pencil lead, making more efficient use of resources. Recycled plastic is used for the barrel, making it environmentally-friendly.



Products/Model :

Zeroshin Glamour • mini/MGMQ-100

Eco-products No.0155

OA Furniture

Lead for mechanical pencil

Resource-friendly mechanical-pencil lead for offices/schools with case & refill leads made from recycled materials

Tombow Pencil Co., Ltd.

6-10-12, Toshima, Kita-ku, Tokyo, 114-8583 Japan

Tel; 03-3912-1181 Fax; 03-3912-1536

E-mail;

URL; <http://www.tombow.com>

Category:

- A3. Hazardous Substance
- A5. Resource Consumption
- B3. Resource Saving
- B7. Usage of Recycled Material
- C1. Material Extraction

Use of recycled materials helps to prevent global warming, reduces the environmental burden and makes more efficient use of resources.



Products/Model :

Recycled Spare Leads · R5-REV/R5-REW

Eco-products No.0156

OA Furniture

Multi-functional Writing Instrument

Multi-functional writing instrument combining mechanical pencil and dual ballpoint tip

ZEBRA Co., Ltd.

2-9, Higashi-gokencho Shinjuku-ku Tokyo, 162-8562 Japan

Tel; 03-3268-1181 Fax; 03-3268-1590

E-mail; Info@zebra.co.jp

URL; <http://www.zebra.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B2. Longevity
- B7. Usage of Recycled Material
- C5. Product Use, Maintenance and Repair

“SK-Sharbo Care +1” has been backing up PET (polyethylene terephthalate) resin recycling activities in positive manner by utilizing PET material recycled from waste PET bottles of soft drinks as its case. This durable pen endures a long-term usage by changing lead and cartridges, leading to the effective use of resource and the reduction of waste. Seeing whether hazardous chemical substances are included or not, the ink used in this pen complies with the European Standards EN71-3.



Products/Model :

SBCR1

Eco-products No.0157

OA Furniture

Washable marker

Long lasting, refillable highlighter for offices and schools

Tombow Pencil Co., Ltd.

6-10-12, Toshima, Kita-ku, Tokyo, 114-8583 Japan

Tel; 03-3912-1181 Fax; 03-3912-1536

E-mail;

URL; <http://www.tombow.com>

Category:

- A3. Hazardous Substance
- A5. Resource Consumption
- B3. Resource Saving
- B7. Usage of Recycled Material
- C1. Material Extraction

We help to reduce the environmental burden and help to prevent global warming by using resources effectively. The product reduces waste by using recycled materials.



Products/Model :
Twin Highlighter • WA-TC

Eco-products No.0158

OA Furniture

Pencil

General purpose resource-saving pencil

MITSUBISHI PENCIL Co., Ltd.

5-23-37, Higashiohi, Shinagawa-ku, Tokyo, 140-8537 Japan

Tel; 03-3458-6222 Fax; 03-3458-6217

E-mail;

URL; <http://www.mpuni.co.jp>

Category:

- B1. Recyclability
- B3. Resource Saving
- B7. Usage of Recycled Material
- C4. Product Manufacture
- C5. Product Use, Maintenance and Repair

We process offcuts from lumber through the “joint method” which allows us to join offcuts together. Parts such as the burl are removed.

By using lumber offcuts we make efficient use of leftover wood.



Products/Model :
PENCIL • 9800EW(HB)

Eco-products No.0159

OA Furniture

Highlighter

Resource-saving highlighter for general use

MITSUBISHI PENCIL Co., Ltd.

5-23-37, Higashiohi, Shinagawa-ku, Tokyo, 140-8537 Japan

Tel; 03-3458-6222 Fax; 03-3458-6217

E-mail;

URL; <http://www.mpuni.co.jp>

Category:

- B1. Recyclability
- B3. Resource Saving
- B7. Usage of Recycled Material
- C4. Product Manufacture
- C5. Product Use, Maintenance and Repair

We make better use of resources by producing the body case and cap from recycled polypropylene and use recycled polyethylene for rear case each as a member.

The highlighter is easily refilled and ink refills are available in packs of three. The use of refills cuts down on waste.



Products/Model :

HIGH-LIGHTER • PUS-101T EWRRefill • PUSR-121

Eco-products No.0160

OA Furniture

Kraft adhesive tape

Neo 101RP : adhesive tape that does not need to be removed for carton recycling

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

Neo 101RP Tape uses recycled kraft paper that has received the ECO mark.

The tape contains no plastic materials in the face stock and is coated with special adhesive and lamination agents.



Products/Model :

Neo 101RP

Eco-products No.0161

OA Furniture

Adhesive tape for office work

“Neo 105RP”, adhesive tape made from recycled paper

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

“Neo 105RP” adhesive tape is a Eco-Mark product made from the recycled paper that contains the used-paper pulp in the ratio of 50%. The tape is coated with the special adhesive agent and the release agent, and the face stock contain no plastics. It is not necessary to remove the tape when used envelopes are regenerated.



Products/Model :
Neo105RP

Eco-products No.0162

OA Furniture

Kraft gummed tape

“RK-90”, kraft gummed tape for efficient recycling of package materials

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004 Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

Kraft gummed tape "RK-90" is used for light-weight packages and one of the ECO-mark product of our company. Forty per cent of its component is recycled-paper pulp. Kraft gummed tape is produced by coating a carefully selected kraft paper with a water-soluble adhesive. This gummed tape enable a cardboard box to be recycled without removing the tape from the box.



Products/Model :
Kraft gummed tape RK-90

Eco-products No.0163

OA Furniture

Sticky note

Eco Mark labeled sticky note made of recycled paper

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B3. Resource Saving
- B7. Usage of Recycled Material
- C1. Material Extraction
- C3. Design and Material Selection

"Fit Mate 100% Recycled Paper series" acquired the Eco Mark and conformed to the Law on Promoting Green Purchasing, being made by processing 100% recycled paper so that it has self-bonding properties. Products of your own design are available. Basic colors are blue, pink, yellow, green, and white (brightness is set at 70% or less). Other twenty-one colors are available, which are lilac, peach, salmon, fresh color, orange, white brown, ivory, cream, deepen cream, pea green, holly green, jade green, pale yellow, light aqua, aerial tints, blue, silver gray, aqua, bright green, pale rose, and yellow. As for a Notebook type product that puts together different sticky notes, "Saisei 21" (containing 70% of used paper) is used as a cover.



Products/Model :

Fit Mate 100%-Recycled Paper Series

Eco-products No.0164

OA Furniture

Label material

Pressure-sensitive adhesive paper made with recycled paper

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004 Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C4. Product Manufacture

This pressure-sensitive adhesive paper uses recycled paper in its face material and release liner. Product without PE laminated release paper are also available.



Products/Model :

Pressure -sensitive adhesive paper made with recycled paper

Eco-products No.0165

OA Furniture

Label material

Easily removable "Placon Label" for plastic container

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

"Placon Label" is designed to be easily removed in the warm water that is usually used in the plastic-container cleaning-process. Of course, it sticks tightly to the surface of a container while the container is being used. "Placon Label" is applicable to polyethylene and polypropylene containers.



Products/Model :

Placon Label

Eco-products No.0166

OA Furniture

Label material

Waterproof and easily detachable label-paper for returnable bottles

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

Salient feature of this adhesive label-paper is to detach easily and neatly from the returnable bottles by treatment in a weak alkaline solution of above 70 °C . This property contributes to the recycle of liquor and beer bottles through the improvement of efficiency in the washing process of bottles.



Products/Model :

Returnable Label

Eco-products No.0167

OA Furniture

Label Material

Water-soluble pressure-sensitive adhesive paper

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

Special water-soluble paper is used in this product. It is ideal for labeling receptacles that are washed and reused, such as containers and tubes.



Products/Model :

Water-soluble pressure-sensitive adhesive paper

Eco-products No.0168

OA Furniture

Label Material

Lintec Surround "Olefin film" series

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- B6. Environmental Purification
- C3. Design and Material Selection
- C4. Product Manufacture

This product is a substitute of the polyvinyl chloride film that forms the substances that are harmful to the environment in the incineration step. By using an olefin film as the face material, it can be expected to decrease the generation of harmful substances.



Products/Model :

Lintec Surround 「Olefin film」 series

Eco-products No.0169

OA Furniture

Label Material

Pressure-sensitive adhesive paper made with recycled paper.

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C4. Product Manufacture

This pressure-sensitive adhesive paper uses recycled paper in its face materials and release liners. Products without PE-laminated release-paper are also available. The surface, pressure-sensitive adhesive and release liners, all materials recycle be possible adhesive paper made with recycled paper.



Products/Model :

All materials recycle be possible adhesive paper made with recycled paper

Eco-products No.0170

OA Furniture

Label Material

“Kinus series”, label sheets made from various plastics

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A2. Air Pollution
- B3. Resource Saving
- B6. Environmental Purification
- C3. Design and Material Selection
- C4. Product Manufacture

This makes it easy to recycle the products. For example, a formed polystyrene case with styrene labels can be recycled without moving the label. These labels are also used for recyclable plastic casing material. There are four types: KEE uses a polyethylene film as face material, KEP has a polypropylene film as face material, KES uses a polystyrene face material and KEA uses a acrylonitrile-butadiene- styrene film as face material.



Products/Model :

Kinath series

Eco-products No.0171

OA Furniture

Label Material

Label material utilizing 25% or more of recycled PET bottle for face materials

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C4. Product Manufacture

The Council for PET Bottle Recycling recognize this label. It includes 25% recycled PET for face materials. 1m² of 50μm film is equivalent to 2/5 of PET bottle(32g).



Eco-products No.0172

OA Furniture

Labeling paper for confidential postcards

“Ecolease system”, resources-saving and easy mailing method

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004 Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

"Ecolease System" is a mailing method of confidential postcards, the feature of which is to use a non-removable heat-sealing type sticker to protect the private information printed on postcard. Labeler machine of the easy operation is applied to stick a sticker. The sticker is made from the recycled paper which contains used-paper pulp of 70%. Tore stickers are regenerated with postcards into recycled paper. "Ecolease System" meets contemporary needs by facilitating the reduction of communications cost and the rationalization of postal administrative tasks.



Products/Model :
The Ecolease System

Eco-products No.0173

OA Furniture

Correction tape

Correction tape that cuts cost and waste

PLUS Corporation

20-11, Otowa 1-Chome, Bnkyo-Ku, TOKYO, 112-0013 JAPAN

Tel; 03-3942-1428 Fax; 03-3942-3085

E-mail;

URL; <http://bungu.plus.co.jp>

Category:

- A4. Waste
- B3. Resource Saving
- B7. Usage of Recycled Material
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

This refillable product uses 100% recyclable resin for the refill, therefore cuts down on the amount of waste for disposal.

Weight of disposal is approximately 3g-a quarter of that of previous conventional product. The refilling process is fast and simple.



Products/Model :
WHIPER ECO 4

Eco-products No.0174

OA Furniture

Correcting tool

W-400, Brush-type correcting fluid to minimize environmental impact

Marujiyu Kasei Co., Ltd.

1748, Kamiseka, Ishikawa-cho, Kanzaki-gun, Hyogo 679-2303

Tel; 0790-27-1300 Fax; 0790-27-1303

E-mail; tactory@misnon.com

URL; <http://www.misnon.com>

Category:

- A4. Waste
- B2. Longevity
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C4. Product Manufacture

This correction fluid uses 100% recycled polymer. The duty cycle of recycled resin is 85% of the total weight of the product. There are no harmful substances in the fluid or recycled resin. The waste fluid generated during on production is implemented with sludge removal, ph control etc, and is drained as treated water which is harmless to the environment.



Products/Model :
GANGY MISNON W-400

Eco-products No.0175

OA Furniture

Mousepad

Environmentally-friendly S-wood cypress mousepad

Shinwa Wood Industrial Co., Ltd.

Suetyou 7-178-1, Kakamigahara-city, Gifu-prefecture, 509-0108 Japan

Tel; 0583-84-8784 Fax; 0583-70-2859

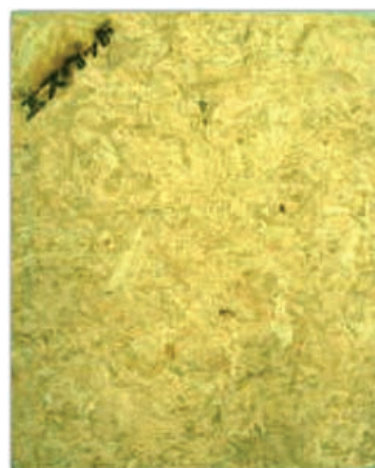
E-mail; LEJ5626@nifty.ne.jp

URL; <http://www.shinwa-m.com>

Category:

- A1. Global Warming
- A2. Air Pollution
- A3. Hazardous Substance
- A4. Waste
- A5. Resource Consumption

This mousepad is made from wood waste (Japanese cypress) helping to support forest regeneration and prevention of global warming. Safe, non-toxic adhesives are used to minimize harmful VOCs and emission of dioxin/SOX when incinerated. Cared for properly, it should prove to be a long lasting product and the materials used are suitable for recycling.



Products/Model :

S-wood mousepad (a Japanese-cypress)

Eco-products No.0176

OA Furniture

Wooden desk mat

Environmentally-friendly S-wood cypress desk mat

Shinwa Wood Industrial Co., Ltd.

Suetyou 7-178-1, Kakamigahara-city, Gifu-prefecture, 509-0108 Japan

Tel; 0583-84-8784 Fax; 0583-70-2859

E-mail; LEJ5626@nifty.ne.jp

URL; <http://www.shinwa-m.com>

Category:

- A1. Global Warming
- A2. Air Pollution
- A3. Hazardous Substance
- A4. Waste
- A5. Resource Consumption

Made from wood waste (Japanese cypress), this product contributes to forest regeneration and helps to prevent global warming. It features safe, non-toxic adhesives and eco polyurethane/natural paint which does not contain PRTR registered substances. This means harmful VOCs and the emission of dioxin/SOX can be minimized on incineration. Cared for properly, it has a long life and materials are suitable for recycling.



Products/Model :

S-wood my desk (a Japanese-cypress)

Eco-products No.0177

OA Furniture

OA cleaner

Office equipment cleaner using reproduced PE for its bottle

KOKUYO Co., Ltd.

6-1-1, Oimazato-Minami Higashinari-ku, Osaka, 537-8686 Japan

Tel; 06-6973-9202 Fax; 06-6973-9374

E-mail;

URL; <http://www.kokuyo.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C6. End-of-Life

- The product bottle uses 87% reproduced PE.
- Bottles can be reused and recycled, contributing to resource-saving.
- Clearer Cleaner refills, OA cleaner (for equipment/for Refill), EAS-CL-R25, are available.



Products/Model :
CLEANER EAS-CL-25

Eco-products No.0178

OA Furniture

Diaper disposal bin

Diaper disposal bin made from 100% recycled wood

Combi With Corporation

2-6-7, Motoasakusa, Taito-ku, Tokyo, 111-0041 Japan

Tel; 03-5828-7631 Fax; 03-5828-7630

E-mail; with.bcs@combi.co.jp

URL; <http://www.combiwith.co.jp>

Category:

- A3. Hazardous Substance
- B1. Recyclability
- B3. Resource Saving
- B7. Usage of Recycled Material
- C3. Design and Material Selection

Wood parts feature only recycled wood and timbers from thinned woods. Toluene and xylene are not used in raw materials for adhesive, decorative paper or serigraph ink etc. Thanks to the design, the bin minimizes odors.



Products/Model :
Angel NS Diaper Disposal Bin

Eco-products No.0179

OA Furniture

Folding chair with replaceable cushions for office

LION office products corporation

2-6-11 Higashinakano Nakano-ku Tokyo, 164-0003 Japan

Tel; 03-3369-1111 Fax; 03-3227-7810

E-mail; info@ml.lion-jimuki.co.jp

URL; <http://www.lion-jimuki.co.jp>

Category:

- A3. Hazardous Substance
- B1. Recyclability
- B2. Longevity
- C4. Product Manufacture
- C6. End-of-Life

Made of steel and chlorine-free resin. CFC and VOC is not used in manufacturing process. Wastewater is legally treated considering neighborhood environment. Cushions are replaceable to make the chair long-life.



Products/Model :
folding chair No. 410SP

Eco-products No.0180

Apparel / Fabric Products

Winter Sports Jacket

Heavy work jacket using chemically recycled fiber

JICHODO Co., Ltd.

16-2, Tode, Shinichi-cho, Fukuyama-shi, Hiroshima, 729-3193 Japan

Tel; 0847-51-8111 Fax; 0847-51-8117

E-mail; honsyasoumuka@jichodo.co.jp

URL; <http://www.jichodo.co.jp>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

Over 60% of the outer materials of our products is made of recycled chemical fibers, which we manufacture using the same amount of energy consumption required for conventional polyester products. This means a more efficient use of resources.



Products/Model :
BLOUSON · 48140

Eco-products No.0181

Apparel / Fabric Products

Winter Trousers

Work trousers using chemically recycled fibers

JICHODO Co., Ltd.

16-2, Tode, Shinichi-cho, Fukuyama-shi, Hiroshima, 729-3193 Japan

Tel; 0847-51-8111 Fax; 0847-51-8117

E-mail; honsyasoumuka@jichodo.co.jp

URL; <http://www.jichodo.co.jp>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

Over 60% of the outer materials of our products is made of recycled chemical fibers, which we manufacture using the same amount of energy consumption required for conventional polyester products. This means a more efficient use of resources.



Products/Model :
PANTS · 48141

Eco-products No.0182

Apparel / Fabric Products

Watch coat

Winter uniform using chemically recycled fiber

JICHODO Co., Ltd.

16-2, Tode, Shinichi-cho, Fukuyama-shi, Hiroshima, 729-3193 Japan

Tel; 0847-51-8111 Fax; 0847-51-8117

E-mail; honsya soumuka@jichodo.co.jp

URL; <http://www.jichodo.co.jp>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

Over 60% of the outer materials of our products is made of recycled chemical fibers, which we manufacture using the same amount of energy consumption required for conventional polyester products. This means a more efficient use of resources.



Products/Model :
COAT · 48143

Eco-products No.0183

Apparel / Fabric Products

Dress shirt

Office uniform after reduction of oil resources use and waste

CHIKUMA & Co., Ltd.

3-3-10, Awaji-cho, Chuo-ku, Osaka-shi, 541-0047 Japan

Tel; 06-6222-3289 Fax; 06-6222-3665

E-mail; o~alpha@chikuma.co.jp

URL; <http://www.chikuma.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- B7. Usage of Recycled Material
- C6. End-of-Life

This garment contains a minimum of 55% PET bottle-recycled polyester, which means it saves oil resources and puts used PET bottles to good use.



Eco-products No.0184

Apparel / Fabric Products

Uniform

Office uniform that saves oil resources and reduces waste

CHIKUMA & Co., Ltd.

3-3-10, Awaji-cho, Chuo-ku, Osaka-shi, 541-0047 Japan

Tel; 06-6222-3289 Fax; 06-6222-3665

E-mail; o~alpha@chikuma.co.jp

URL; <http://www.chikuma.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- B7. Usage of Recycled Material
- C6. End-of-Life

The cloth is made from material that incorporates at least 55% PET bottle-recycled polyester so it saves oil resources and makes use of discarded PET bottles.



Eco-products No.0185

Apparel / Fabric Products

Winter uniform

Office uniform that saves oil resources and reduces waste

CHIKUMA & Co., Ltd.

3-3-10, Awaji-cho, Chuo-ku, Osaka-shi, 541-0047 Japan

Tel; 06-6222-3289 Fax; 06-6222-3665

E-mail; o~alpha@chikuma.co.jp

URL; <http://www.chikuma.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- B7. Usage of Recycled Material
- C6. End-of-Life

The clothing is made from material that uses a minimum of 55% PET bottle-recycled polyester. This means it doesn't use oil resources and it reduces waste by using PET bottles.



Products/Model :
FC7802-1

Eco-products No.0186

Apparel / Fabric Products

Blouse

Blouse made from recycled polyester manufactured in a closed-loop system

YAGI CORPORATION

2-80, Tonya-machi, Kananazawa-city, Ishikawa 920-8503 Japan

Tel; 076-237-1124 Fax; 076-237-1275

E-mail; abe@yagi.co.jp

URL; <http://www.yagi.co.jp/>

Category:

- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C6. End-of-Life

Yagi Corporation manufactured the world's first blouse made from recycled polyester created in a closed-loop recycling system, which can be repeatedly reused in the recycling system. Used polyester can be used to create high-purity polyester material, which is then used to manufacture recycled polyester fiber. The fiber has the same quality as original fiber and can be used again and again.



Eco-products No.0187

Apparel / Fabric Products

Work gloves

Environmentally-friendly gloves

Fukutoku Corporation

2789-1, Senda, Sendacho. Fukuyama-city. Hiroshima 720-0013, Japan

Tel; 084-955-0806 Fax; 084-955-5258

E-mail; hosodan@tebukuroya.com

URL; <http://www.fukutoku.com>

Category:

- A1. Global Warming
- B1. Recyclability
- B5. Energy Saving
- B7. Usage of Recycled Material
- C6. End-of-Life

These work gloves are made of fiber recycled from PET bottles. Each pair of gloves is produced from two 500ml PET bottles.



Products/Model :

Ecolo recycle Glove #220

Ecolo recycle Glove(Non skid glove) #320

Eco-products No.0188

Apparel / Fabric Products

Blackout Curtain

Hyper Curtain, an intention for healthy designed with environmental preservation in mind.

C-PRO Co., Ltd.

1405-3, Akishino-cho, Nara city, Nara 631-0811 Japan

Tel; 0742-53-0050 Fax; 0742-53-8190

E-mail; corp-info@cpro.jp

URL; <http://www.cpro.jp/>

Category:

- A4. Waste
- B5. Energy Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

“Hyper Curtain” is a curtain material made of fibers impregnated with “Hyper Selan”, giving the material the capacity to clean air. The decomposition and reduction action of “Hyper Selan” can absorb and breakdown formaldehyde, normalizing the air in rooms where it is used. “Hyper Selan” can also absorb dust mites, mold, noxious substances, particles such as airborne bacteria, and odors in room air, decomposing and reducing these materials through the action of silver ions. “Hyper Curtain” material is made from 100% natural material, so it will not contribute to the industrial waste problem when discarded – another way in which “Hyper Curtain” material is friendly to the environment.



Products/Model :

Hyper Curtain

Eco-products No.0189

Apparel / Fabric Products

Bedclothes

Hyper Mat, an intention for healthy designed with environmental preservation in mind.

C-PRO Co., Ltd.

1405-3, Akishino-cho, Nara city, Nara 631-0811 Japan

Tel; 0742-53-0050 Fax; 0742-53-8190

E-mail; corp-info@cpro.jp

URL; <http://www.cpro.jp/>

Category:

- A4. Waste
- B5. Energy Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

“Hyper Mat” is a sleeping pad made of nonwoven cloth impregnated with “Hyper Selan”. In addition to deodorizing and antibacterial properties, “Hyper Mat” uses radiant heat to keep the bed warm and comfortable, eliminating the need for far infrared radiation electric blankets. “Hyper Mat” can keep you warm while protecting you from the hypersensitivity to electromagnetic waves that can occur with electric blanket use. This groundbreaking product keeps you cool and dry in the summer and warm and cozy in the winter.



Products/Model :
Hyper Mat

Eco-products No.0190

Commodity / Outdoor Goods / Housing Kit

Air-conditioning equipment

Freon-free gas air-conditioning equipment / system

Toho Gas Co., Ltd.

18-19, Sakurada-cho, Atsuta-ku, Nagoya-shi, Aichi 456-8511, Japan

Tel; 052-872-9252 Fax; 052-872-9257

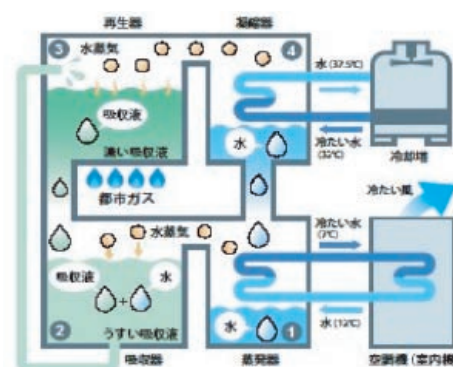
E-mail;

URL; <http://www.tohogas.co.jp/work/kankyo/>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B4. Higher Quality
- B5. Energy Saving
- C6. End-of-Life

Gas absorbing water heater performs cooling through iteration of evaporation, absorption, regeneration and condensation, utilizing law of water sprinkling. The system adopts water for refrigerant, with no use of Freon, resulting in efficient protection of ozone layer.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-products No.0191

Commodity / Outdoor Goods / Housing Kit

Window Film

Environmentally friendly window film considering the emissions of CO₂ and energy saving

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

When applied to glass surface, these transparent adhesive films reduce ultraviolet light transmission and also help to prevent pieces of glass flying through the air in the event of the glass breaking. Included in the line-up are various functional and decorative films for buildings and automotive applications.



Products/Model :

Lumicool

Eco-products No.0192

Commodity / Outdoor Goods / Housing Kit

Residential Solar Power Generation System

Residential solar power generation system with stylish design and performance

Kyocera Corporation

6, Takeda Tobadono-cho, Fushimi-ku, Kyoto, Japan 612-8501

Tel; 075-604-3500 Fax; 075-604-3501

E-mail; webmaster@kyocera.co.jp

URL; <http://www.kyocera.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair

Kyocera's newly developed solar power generating system "SAMURAI" achieved to effectively use energy while maintaining beauty in the appearance of the residence. To avoid detracting from residential stylish appearance, "SAMURAI" was designed with a sense of unity with the roof taken into consideration. As we all know, this product creates no environmental burden and contributes to preserve global environment as it converts solar light energy to electric energy.



Products/Model :

SAMURAI SU58-02, SU43-02 東 洋一

Eco-products No.0193

Packaging

Shampoo

Environment-burden-reduced product for naturalist with environment pollution feared

SHISEIDO CO., LTD.

7-5-5, Ginza, Chuo-ku, Tokyo 104-0061 Japan

Tel; 03-3572-1111 Fax; 03-6218-5119

E-mail; ataru.iwamoto@to.shiseido.co.jp

URL; <http://www.shiseido.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B4. Higher Quality
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

Shiseido is under research of the raw materials with small impact on environment and superb biodegradability. One such example is the development of AMT(acyl methyl taurine), the washing material with high biodegradability, which washes out the dirt of hair or skin and used for the shampoo or the facial wash. Evolving the above, we also have succeeded in the development of "taurine soap," an ideal skin washing agent with high detergency, the flexibility of skin retained.



Products/Model :
SUPER MILD SHAMPOO

Eco-products No.0194

Commodity / Outdoor Goods / Housing Kit

Room deodorizer

Environmentally-friendly room deodorizer for homes/retail premises

K・E・K ASSOCIATES Co., Ltd.

4-1-8-3F, Kaiden, Nagaokakyo-shi, Kyoto, 617-0826 Japan

Tel; 075-957-0100 Fax; 075-957-0099

E-mail; info@kek.co.jp

URL; <http://www.kek.co.jp>

Category:

- B4. Higher Quality
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

This environmentally-friendly product has strong deodorizing power. It can be safely used without any harmful effect to human health (including the elderly and children) and is safe for pets. It is biodegradable and the container does not release harmful substances even when incinerated.



Products/Model :
DASH NO! ■ ns_d_01 ns_d_05

Eco-products No.0195

Commodity / Outdoor Goods / Housing Kit

Antibacterial hand soap

Eco-friendly antibacterial hand soap

SARAYA CO., LTD.

2-2-8 Yuzato, Higashisumiyoshi-ku, Osaka 546-0013 Japan

Tel; 06-6797-3111 Fax; 06-6797-2290

E-mail;

URL; <http://www.saraya.com>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

This antibacterial hand soap poses little risk of pollution since it is highly biodegradable. It does not contain environmentally harmful ABS, LAS, synthetic higher pure alcohol or phosphate. It is supplied in a re-usable container and refill packs are available, leading to significant resource savings. The cost of waste treatment is also reduced compared with containers such as plastic. Eco-label certified product.



Products/Model :
Shavonet F refill

Eco-products No.0196

Commodity / Outdoor Goods / Housing Kit

Dishwashing detergent

Eco-friendly household kitchen detergent

SARAYA CO., LTD.

2-2-8 Yuzato, Higashisumiyoshi-ku, Osaka 546-0013 Japan

Tel; 06-6797-3111 Fax; 06-6797-2290

E-mail;

URL; <http://www.saraya.com>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

This eco-friendly kitchen detergent contains 100% hearts of palm and does not use ABS, LAS, synthetic higher pure alcohol, phosphate, flavoring or unnecessary coloring agents. It is more than 99% biodegradable so there is little risk of drainage pollution. It is kind to the skin and refill packs which can be used with the original container provide a significant resource saving. In addition, it reduces waste treatment energy compared with plastic containers. Eco-label certified product.



Products/Model :
Yashinomi Detergent refill

Eco-products No.0197

Commodity / Outdoor Goods / Housing Kit

Spoon, fork, and glass

Environmental-friendly dishes designed for out-door leisure, EcoOne

ENTEC Co., Ltd.

375-1. Oseki, Tubame-si, Niigata 959-1287 Japan

Tel; 0256-63-3515 Fax; 0256-64-4530

E-mail; info@k-entec.co.jp

URL; <http://www.k-entec.co.jp>

Category:

- A1. Global Warming
- A2. Air Pollution
- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving

Raw materials used for the dish are plants such as corns and potatoes, thereby efficiently reducing global warming influence. Also, the dish needs as low as approximately 4,000 calories when incinerated, causing no contamination of the air. The dish is biodegradable, being resolved by natural microorganism under the soil.



Products/Model :
Eco One

Eco-products No.0198

Commodity / Outdoor Goods / Housing Kit

Umbrella Stand

Umbrella-stand for offices, restaurants, shops and public facilities

Teramoto Corporation Ltd.

5-29 Itachibori 3-chome, Nishi-ku, Osaka-city, Osaka pref. 550-0012 Japan

Tel; 06-6541-3333 Fax; 06-6531-2323

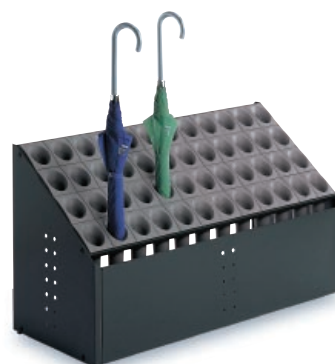
E-mail; info@teramoto.co.jp

URL; <http://www.teramoto.co.jp/>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- B7. Usage of Recycled Material
- C6. End-of-Life

This product uses recycled polypropylene generated by food processing plants (from the end materials of dessert containers). Each year, a single food-processing factory generates around 600-tons of this material. The umbrella stand is often used in government and municipal offices and in companies with an interest in environmental protection. It conforms to the requirements of the Law on Promoting Green Purchasing (Recycled resins account for at least 10% of total resin weight contained in a product.)



Products/Model :
UB-285-2

Eco-products No.0199

Commodity / Outdoor Goods / Housing Kit

Suntory TARUMONOGATARI

“TARU-MONOGATARI” high-quality, long-life furniture

Suntory Limited

1-2-3, Motoakasaka, Tokyo 107-8430 Japan

Tel; 03-3470-5116 Fax; 03-3470-7994

E-mail; Seiei_Saitoh@suntory.co.jp

URL; <http://www.suntory.co.jp/index.html>

Category:

- A1. Global Warming
- A4. Waste
- B1. Recyclability
- B2. Longevity
- B3. Resource Saving

Barrels and casks made from oak trees of over 100-year-old are used for around 70 years as the cradle of whisky for aging being refilled with freshly distilled liquor several times. After finishing their duty, however, the retired containers of straight-grained oak wood had formerly been used wastefully as fuel. Through 20 years of study of trial and error, we had completed the techniques of recycling these laudable ones into furniture of high-quality and long-life. We utilize, of course, the chips of the material to make small articles such as stationery and even its sawdust turns into the glaze for tasteful ceramic ware. Through this special technique of recycling forest resource, we may say that the carbon sequestration in the wood would last almost permanently.



Products/Model :
SUNTORY "TARU-MONOGATARI"

Eco-products No.0200

Commodity / Outdoor Goods / Housing Kit

Natural clay pavement

Soilbarn construction as ecological construction featuring low environmental load

INAX Corporation

5-1, Koiehonmachi, Tokoname, Aichi 479-8585 Japan

Tel; Fax;

E-mail;

URL; <http://inax.co.jp/>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B5. Energy Saving
- B7. Usage of Recycled Material
- C1. Material Extraction

We have produced the natural clay pavement which hardly have environmental load due to the fuel energy consumption and CO₂ emission because of using materials with no oil energy. This pavement realizes energy-saving by 1/7 for cement and 1/3 for asphalt. This pavement is useful for resource-saving and carrying costs reduction because clay which is resources at hand can use effectively. This pavement material can be reused as recycled clay pavement materials because any cement and plastic are not included.



Products/Model :
solidifying soil construction method

Eco-products No.0201

Commodity / Outdoor Goods / Housing Kit

Built-in Stove

Energy-saving inner-flame burner cooker with high heat efficiency

Rinnai Corporation

2-26Fukuzumi-chou, Nakagawa-ku, Nagoya-shi, Aichi, 454-0802 Japan

Tel; 052-361-8211 Fax; 052-361-8877

E-mail; Livingstaff@hq.rinnai.co.jp

URL; <http://www.rinnai.co.jp/>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B5. Energy Saving
- C4. Product Manufacture
- C5. Product Use, Maintenance and Repair

This inner-flame burner cooker achieves high heat efficiency, reducing CO₂ (greenhouse gas effect) by 11.9% in comparison with the conventional outer-flame burner model. The product also conforms to energy-saving laws, achieving an energy consumption efficiency ratio of 56.3%, which is higher than the standard target ratio of 55.6%.

Furthermore, the steel used has a lubricated film. The burner materials are coated with resin so pressing can be carried out without any oil, eliminating the degreasing process. As a result, the emission of toxic waste from cleaning liquid is eliminated, reducing environmental impact.



Products/Model :

built-in cooker with grill RSK-N78W4GD10X-SV

Eco-products No.0202

Commodity / Outdoor Goods / Housing Kit

Gas Cooking Stove

Energy-saving household gas cooking stove

Tokyo Gas Co., Ltd.

1-5-20 Kaigan, Minato, Tokyo 105-8527 Japan

Tel; 03-5400-7671 Fax; 03-3432-5509

E-mail; ichiro@tokyo-gas.co.jp

URL; <http://www.tokyo-gas.co.jp/>

Category:

- A1. Global Warming
- A2. Air Pollution
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving

Our company has extended its range of gas cooking stoves by introducing new models with high-efficiency internal-multiple-flame-port burners that control the size of the flame underneath a pot. The flames of the burners that rise inward produce excellent cooking results. It also offers other advantages such as easier cleaning and better control of low flame. In addition, the flame remains inward even when power is increased and heat does not extend to pan-handles, making them safer to use. Compared with our conventional gas stoves, the built-in stove reduces energy consumption by 11.9% and 13% for a counter top stove.



Products/Model :

RN-M873PA

Eco-products No.0203

Commodity / Outdoor Goods / Housing Kit

Gas stove

Improvement of efficiency of gas stove for household

Osaka Gas Co., Ltd.

1-2, Hirano-cho, 4-chome, Chuo-ku, Osaka-shi, Osaka
541-0046, Japan

Tel; 06-6202-2221 Fax;

E-mail;

URL; <http://www.osakagas.co.jp/index.htm>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

It is a gas stove for household use with efficiency raised, proceeding on with a variety of technology developments such as artifice for burner configuration or optimization of footman height. The conventional 45% heat efficiency has been raised to 50%, decreasing energy consumption by roughly 10%



ガラスストップコンロ

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-products No.0204

Commodity / Outdoor Goods / Housing Kit

Dishwasher

Dishwasher: money-saving and water-saving

TOTO Ltd.

1-1, Nakashima 2-chome, Kokurakita-ku, Kitakyushu-City, Fukuoka
802-8601, Japan

Tel; 093-951-2707 Fax; 093-922-6789

E-mail;

URL; <http://www.toto.co.jp>

Category:

- B5. Energy Saving

This dishwasher achieves a high-pressure jet with the minimum of water by reducing the nozzle size and installing a rolling ball. As a result, it provides saving in both water and gas, equivalent to 750 bathtubs of water a year and 77,000 yen a year in cost reduction, compared with handwashing.



Eco-products No.0205

Commodity / Outdoor Goods / Housing Kit

Home Water Purifier

“Torayvino” Home Water Purifier

Toray Industries, Inc.

Toray Bldg., 2-1, Nihonbashi-Muromachi 2-chome, Chuo-ku, Tokyo,
103-8666 Japan

Tel; 03-3245-5179 Fax; 03-3245-5459

E-mail;

URL; <http://www.toray.co.jp>

Category:

● A3. Hazardous Substance

Toray's Torayvino* home water purifiers use the company's hollow-fiber membrane and activating carbon technologies. Torayvino* purifiers offer excellent performance in eliminating chlorine, turbidity, red rust and other micro particles. The Torayvino* lineup includes cartridges capable of removing trihalomethane. Also available are the Super Luce* faucet-connection type where a liquid-crystal indicator provides a warning when the cartridge needs changed; the sink-top type; the under-sink type; and the ionized alkaline water fountain. In this and other ways, Toray is making efforts to contribute to the creation of a safe and favorable water environment.



Eco-products No.0206

Commodity / Outdoor Goods / Housing Kit

Energy-saving housing

Environmentally friendly, energy-saving housing

Misawa Homes Co., Ltd.

2-4-5. Takaido Higashi, Suginami-ku, Tokyo, 168-8533 Japan

Tel; 03-3247-2104 Fax; 03-5370-7306

E-mail; kankyo@misawa.co.jp

URL; <http://www.misawa.co.jp/>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

There is almost no heat loss from this home due to its adiathermancy and airtightness. This coupled with high-efficiency air-conditioning, ventilation, hot water supply and kitchen and lighting facilities means energy consumption is minimized. It is airy in summer but well insulated in winter and the energy needed is generated by a solar battery covering the entire roof.

When necessary, such as at night or in cloudy conditions, the home automatically uses power from the power company but conversely, any excess power produced can be sold to the power company - avoiding energy wastage. Equipment that uses “cheap night-time power” cuts down on cost and allows the householder to benefit from selling excess power.



Products/Model :

Zero Energy House

Eco-products No.0207

Commodity / Outdoor Goods / Housing Kit

Rechargeable Nickel-Metal Hydride Battery

Nickel-Metal Hydride Battery: High-capacity, rechargeable, recyclable and eco-friendly

SANYO Electric Co., Ltd. Component Group Mobile Energy Company

222-1, Kaminaizen, Sumoto City, Hyogo, 656-8555 Japan

Tel; 0799-24-4111 Fax;

E-mail;

URL; <http://www.sanyo.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

This rechargeable nickel-metal hydride battery can be repeatedly used. By using it as an alternative to a single-use dry cell battery, refuse generation is reduced. In addition, there is a recycling system for nickel-metal hydride batteries that eliminates the waste of resources. Furthermore, environmental impact is reduced by the use of non-PVC materials in an armored tube.



Products/Model :

Rechargeable Nickel-Metal Hydride Battery • HR-3UF

Eco-products No.0208

Commodity / Outdoor Goods / Housing Kit

Heat-exchange ventilation system for housing

Heat exchange type ventilation system for indoor thermal-condition-oriented housing

Misawa Homes Co., Ltd.

2-4-5. Takaido Higashi, Suginami-ku, Tokyo, 168-8533 Japan

Tel; 03-3247-2104 Fax; 03-5370-7306

E-mail; kankyo@misawa.co.jp

URL; <http://www.misawa.co.jp/>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C4. Product Manufacture

A central floor ventilation system ventilates every room with outdoor fresh air and disposes of stale air. Due to heat exchange between emitted air and outdoor air, the temperature of air from vents in each room is close to ambient temperature, resulting in greater comfort. The introduction of a total heat exchanger minimizes discomfort from both winter dryness and summer damp. Heating and cooling efficiency is improved through heat exchange, saving air-conditioning energy.



Products/Model :

Floor type central ventilation system

Eco-products No.0209

Commodity / Outdoor Goods / Housing Kit

Healthy Shizuka

Healthy Shizuka, Natural environmentally-friendly Material Products

Koyo Sangyo, Co., Ltd.

Ishikawa LK-Building 1-9-9, Kaji-cho, Chiyoda-ku, Tokyo, 101-0044 Japan

Tel; 03-3252-1706 Fax; 03-3252-1707

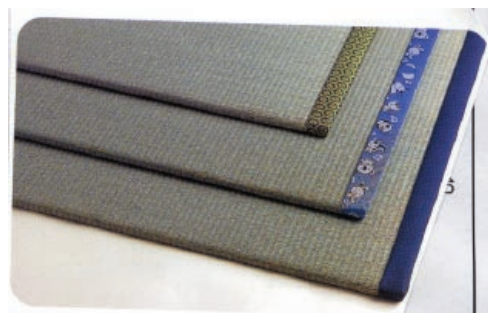
E-mail; shintani@koyoweb.com

URL; <http://www.koyoweb.com/>

Category:

- A1. Global Warming
- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- B5. Energy Saving

Kaolian fruit is traditionally consumed but the plant stems are rarely used. Kaolian board is made from the stems, providing an eco-friendly natural material without using wood. Two-thirds of the wood used in Japan is imported from foreign countries and tropical rain forests occupying half of Honshu Island are further depleted every year. As a country, Japan imports and uses the most tropical timber in the world.



Products/Model :
Healthy shizuka

Eco-products No.0210

Commodity / Outdoor Goods / Housing Kit

Photovoltaic battery module

Environmentally-friendly Photovoltaic battery modules

Mitsubishi Electric Corporation

2-2-3 Marunouchi, Chiyoda-ku, Tokyo, 100-8310 JAPAN

Tel; 03-3218-9024 Fax; 03-3218-2465

E-mail; eqd.eco@hq.melco.co.jp

URL; <http://www.MitsubishiElectric.co.jp/corporate/eco/index.html>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

We began mass production of a photovoltaic battery module with lead-free solder ahead of our industry competitors. Approximately 864g of lead solder is used per house for a conventional photovoltaic battery module (*1). Our modules does not include any lead in the solder (*2).. This product not only reduces possible environmental impact but also improves conversion efficiency as the basic function of photovoltaic battery.

*1: Per house (for 3kW system): assuming 24 modules

*2: Quantity of lead required for soldering joints



Products/Model :
Photovoltaic Module

Eco-products No.0211

Commodity / Outdoor Goods / Housing Kit

Elevator

Environmentally-friendly elevator without machine room for office/residential use

Mitsubishi Electric Corporation

2-2-3 Marunouchi, Chiyoda-ku, Tokyo, 100-8310 JAPAN

Tel; 03-3218-9024 Fax; 03-3218-2465

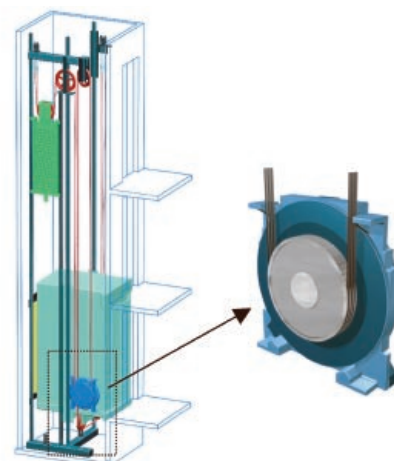
E-mail; eqd.eco@hq.melco.co.jp

URL; <http://www.MitsubishiElectric.co.jp/corporate/eco/index.html>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality

The "ELEPAQ-i" elevator does not require a machine room, allowing rooms needed for existing elevators to be removed. The control panel and traction motor, which were previously installed in a machine room, have been downsized and can be installed in the space between the shaft wall and the elevator car. It has been downsized by 28% and uses 60% less power compared with our previous products (at 1983). ELEPAQ-i also reduces environmentally toxic substances by reducing the use of vinyl chloride (PVC) and by using water based paint which does not contain VOCs.



Products/Model :
Machine-Room-Free Elevator " ELEPAQ-i"

Eco-products No.0212

Commodity / Outdoor Goods / Housing Kit

Insulation Board

Energy-saving Insulation Board for Housing and Building

Toyo Tire & Rubber Co., Ltd.

17-18, Edobori 1-chome, Nishi-ku, Osaka-shi, Osaka, 550-8661 Japan

Tel; 06-6441-8801 Fax;

E-mail;

URL; <http://www.toyo-rubber.co.jp/>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The product has thermal conductivity about a half as steel heat insulators and the highest insulating performance of existing insulators. It is lightweight and good processability increase the efficiency of site work. The surface is laminated with polyethylene film, making the product highly moisture-proof and extremely effective in energy conservation (saved heating and cooling cost → reduction of CO₂).



Products/Model :
Soflan Board SP-2

Eco-products No.0213

Commodity / Outdoor Goods / Housing Kit

Wiping Towel

Wiping towel for adult care: Wiping fine dirt from excrement

Unicharm Corporation

Keikyu 2nd Building, 25-23 Takanawa 3-chome, Minato-ku, Tokyo

Tel; 03-3449-3571 Fax; 03-3448-9335

E-mail;

URL; <http://www.unicharm.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B2. Longevity
- C3. Design and Material Selection
- C4. Product Manufacture

Traditionally, a non-woven cloth was discarded, but parts not used were collected in a sanitary manner and pulverized in a special way to form cotton fibers. This new process allows discarded non-woven cloth to be recycled. Fine dirt from excrement can be gently cleaning liquid wiped with this new product as being treated with towel. If it is used with a special, it may not be rinsed with water after use.



Products/Model :

Lifreee wiping towel

Eco-products No.0214

Commodity / Outdoor Goods / Housing Kit

Disposable Diaper

Disposable Diaper: Biodegradable plastic package

Unicharm Corporation

Keikyu 2nd Building, 25-23 Takanawa 3-chome, Minato-ku, Tokyo

Tel; 03-3449-3571 Fax; 03-3448-9335

E-mail;

URL; <http://www.unicharm.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B6. Environmental Purification
- C4. Product Manufacture
- C6. End-of-Life

We developed a disposable diaper for infants made from biodegradable plastic. Package that can be used like normal plastic but can be buried in soil and decomposes into carbon dioxide and water with soil microorganism after use. In addition, adding elastic functionality (about twice as stretchy as conventional products) to the diaper substantially reduced its cut loss during manufacture.



Products/Model :

Moony

Eco-products No.0215

Commodity / Outdoor Goods / Housing Kit

Disposable Diaper

Disposable diaper: Compact size for disposal

Unicharm Corporation

Keikyū 2nd Building, 25-23 Takanawa 3-chome, Minato-ku, Tokyo

Tel; 03-3449-3571 Fax; 03-3448-9335

E-mail;

URL; <http://www.unicharm.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

Providing treatment tapes at each side of the diaper makes them more compact for disposal than traditional diapers, substantially reducing the amount of garbage from homes with infants. In addition, the introduction of LIME was found to reduce the amount of raw materials compared with an older product, reducing environmental impact.



Products/Model :
Moony Man

Eco-products No.0216

Commodity / Outdoor Goods / Housing Kit

Thermal insulating window

Aluminum composite insulating window with energy-saving and fire-proof functions

TOSTEM CORPORATION

1-1, Ojima 2-chome, Koto-ku, Tokyo 136-8535 Japan

Tel; 03-3638-8187 Fax; 03-3638-8352

E-mail;

URL; <http://www.tostem.co.jp/>

Category:

- B1. Recyclability
- B2. Longevity
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

The product is a composite structure insulating window frame, which uses aluminum material (with durability and fireproof functions) for outside and resin material (with thermal insulation and ornamental design functions) for inside. The product contributes to energy saving by reducing air-conditioner's load at a residential house with a help of double glazed glass. When saved amount of energy is converted into carbonic acid gas, a high-insulation/airproof house using Symphony can reduce carbonic acid gas by approximately 960 kg a year per house in contrast to a conventional house. Thanks to these effects, increased carbonic acid gas by increased materials of the product (such as for sash, glass, and thermal insulation) can be offset within approximately 1.6 years, thus showing enough efficiency in terms of LCA standard. Furthermore, to improve its recyclability, the product has a simple disassemble structure where aluminum/resin materials are fixed with screws. The product is selected as one of the products with our own "Type II Eco-Label", based on our internal standard.



Products/Model :
Symphony

Eco-products No.0217

Commodity / Outdoor Goods / Housing Kit

Wooden deck

Out-door artificial-wooden deck considering long-term use and resource saving

TOSTEM CORPORATION

1-1, Ojima 2-chome, Koto-ku, Tokyo 136-8535 Japan

Tel; 03-3638-8187 Fax; 03-3638-8352

E-mail;

URL; <http://www.tostem.co.jp/>

Category:

- A5. Resource Consumption
- B2. Longevity
- B3. Resource Saving
- B7. Usage of Recycled Material
- C5. Product Use, Maintenance and Repair

The product uses artificial wood produced by compounding wood flour into resin, thus realizing long life with higher weather-proof than conventional natural wood products as well as with less color fading or rotting. Compounded wood flour used for the product is wood waste produced at manufacturing process of various wood products, thereby rendering it resource saving product with effective exploitation of precious wood materials. The product is selected as one of the products with our own "Type II Eco-Label", based on our internal standard.



Products/Model :
RecoStage

Eco-products No.0218

Commodity / Outdoor Goods / Housing Kit

Heater/ Bath Water Heater

Energy-saving latent heat recovery-type heater for residential use

Tokyo Gas Co., Ltd.

1-5-20 Kaigan, Minato, Tokyo 105-8527 Japan

Tel; 03-5400-7671 Fax; 03-3432-5509

E-mail; ichiro@tokyo-gas.co.jp

URL; <http://www.tokyo-gas.co.jp/>

Category:

- A1. Global Warming
- A2. Air Pollution
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving

Our company has developed a high-efficiency water heater system that recovers previously wasted latent heat contained in the exhaust's water vapor. With this system, water heating efficiency is improved from about 80% (at most) to about 95%, and the efficiency of a unit used for room heating is also increased from about 80% to about 89%.

This system contributes to energy savings and to the reduction of green house gas emissions by cutting gas consumption by (up to) about 13%.



Products/Model :
IT4203ARSAW6CU

Eco-products No.0219

Commodity / Outdoor Goods / Housing Kit

Bath Water Heater

Household energy-saving latent heat recovery-type heater

Tokyo Gas Co., Ltd.

1-5-20 Kaigan, Minato, Tokyo 105-8527 Japan

Tel; 03-5400-7671 Fax; 03-3432-5509

E-mail; ichiro@tokyo-gas.co.jp

URL; <http://www.tokyo-gas.co.jp/>

Category:

- A1. Global Warming
- A2. Air Pollution
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving

Our company has developed a high-efficiency water heater system that recovers previously wasted latent heat contained in the exhaust's water vapor. With this system, water heating efficiency is improved from about 80% (at most) to about 95%.

This system contributes to energy savings and to the reduction of green house gas emission by cutting down fuel gas consumption by (up to) about 13%.



Products/Model :
TP-S824RFA-RA

Eco-products No.0220

Commodity / Outdoor Goods / Housing Kit

Electric Water Heater

Eco-friendly water heater for residential use

Tokyo Electric Power Company, Denso Corporation,
The Central Research Institute of Electric Power Industry (CRIEPI)

1-3, Uchisaiwai-cho 1-chome, Chiyoda-ku, Tokyo, 100-8560 Japan

Tel; 03-4216-1111 Fax; 03-4216-3479

E-mail; EITOKU.YASUNORI@tepco.co.jp

URL; <http://www.tepco.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

Ecocute is a household water heater that offers dramatic energy savings on the use of hot water, which normally accounts for about a third of a household's entire energy consumption. It generates hot water using atmospheric heat by means of a heat pump system and offers energy savings of around 30% compared with a conventional combustion type water heater together with a reduction in green house gas emission. The use of natural refrigerant CO₂ contributes to environmental conservation including the prevention of global warming.



Products/Model :
CO₂ refrigerant heat pump water heater for residential use

Eco-products No.0221

Commodity / Outdoor Goods / Housing Kit

Gas water heater

High efficiency household gas water heater

Rinnai Corporation

2-26Fukuzumi-chou, Nakagawa-ku, Nagoya-shi, Aichi, 454-0802 Japan

Tel; 052-361-8211 Fax; 052-361-8877

E-mail; Livingstaff@hq.rinnai.co.jp

URL; <http://www.rinnai.co.jp/>

Category:

- A1. Global Warming
- A2. Air Pollution
- B5. Energy Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

This water heater has a sub-heat exchanger to recover latent heat, increasing heat efficiency from approximately 80% (existing models) to 95%. Accordingly, its gas consumption is reduced, decreasing CO₂ emission by 16%. The product is also environmentally friendly; the use of a ceramic burner helps to reduce NO_x emission by half -- from 60 ppm to 30 ppm -- compared with conventional models.



Products/Model :

RUX-K2400W, RUXC-K2400W,
RUX-K2000W, RUXC-K2000W

Eco-products No.0222

Commodity / Outdoor Goods / Housing Kit

Bathroom system

Energy-saving bathroom

TOTO Ltd.

1-1, Nakashima 2-chome, Kokurakita-ku, Kitakyushu-City, Fukuoka 802-8601, Japan

Tel; 093-951-2707 Fax; 093-922-6789

E-mail;

URL; <http://www.toto.co.jp>

Category:

- B5. Energy Saving

Wrapping the bathtub with double thermal insulation can keep the bath water warm, similar to the way a thermos retains the heat of drinks. This means another person can use the warm bath water for up to six hours, four times as long as existing products. This means bathwater does not need to be reheated, resulting in energy savings.



Eco-products No.0223

Commodity / Outdoor Goods / Housing Kit

Bathroom

Resource/energy-saving conscious unit bathroom equipment for residential houses

TOSTEM CORPORATION

1-1, Ojima 2-chome, Koto-ku, Tokyo 136-8535 Japan

Tel; 03-3638-8187 Fax; 03-3638-8352

E-mail;

URL; <http://www.tostem.co.jp/>

Category:

- A1. Global Warming
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This product contributes to water and energy saving; the bathroom saves 90 liters of water (approximately 20%) when its bathtub is full in contrast to conventional products, while providing same level of comfortable bathing time as a result of tests and studies based on human engineering. In addition, the product employs a wall panel which sandwiches insulating material and an insulating window, which realizes excellent thermal insulating effect, thus contributing to energy saving and comfort improvement. The product is selected as one of the products with our own "Type II Eco-Label", based on our internal standard.



Products/Model :
Refino

Eco-products No.0224

Commodity / Outdoor Goods / Housing Kit

Lavatory stool for bathroom

Lavatory stool featuring water and energy saving, "SATIS"

INAX Corporation

5-1, Koiehonmachi, Tokoname, Aichi 479-8585 Japan

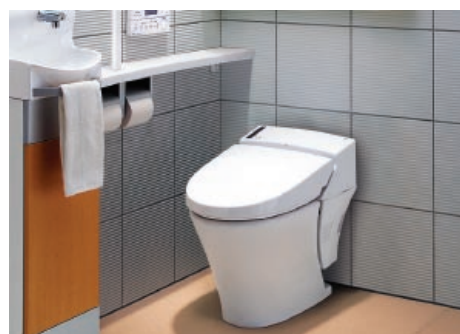
Tel; Fax;

E-mail;

URL; <http://inax.co.jp/>

Category:

This stool features compact size and energy consumption reduction by 21 % and CO₂ emission reduction by 24 % compared to existing products. This stool can save water for 8 liters for cleaning solid waste and 6 liters for liquid waste (4.5 liters for men's liquid waste) are available, thereby realizing about 53% water-saving and about 46% energy-saving compared to existing products through the super energy-saving mode. Additionally, use of detergent is reduced by 72% at cleaning a toilet by pro-guard which features easier cleaning on the toilet surface. The way to hold on the toilet with welding is changed to screw method, so that it is easier to disassemble after discard. The stool is easier to be recycled because of the marking of plastic materials.



Products/Model :
satis, GBS-901S, DV-218 etc

Eco-products No.0225

Commodity / Outdoor Goods / Housing Kit

Automatic faucet (generating-power type)

Water and electricity saving automatic faucet

TOTO Ltd.

1-1, Nakashima 2-chome, Kokurakita-ku, Kitakyushu-City, Fukuoka
802-8601, Japan

Tel; 093-951-2707 Fax; 093-922-6789

E-mail;

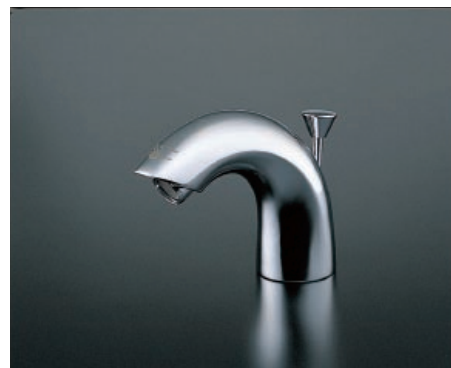
URL; <http://www.toto.co.jp>

Category:

● B5. Energy Saving

The automatic faucet is economical because it saves water thanks to its automatic spout and stop sensor.

Installing hydroelectric power units within the faucet enables water energy to be used effectively and the mechanism saves electricity. In addition, an automatic faucet can be installed without electrical work.



Eco-products No.0226

Commodity / Outdoor Goods / Housing Kit

Closet stool

Closet stool featuring water, energy, and power savings

TOTO Ltd.

1-1, Nakashima 2-chome, Kokurakita-ku, Kitakyushu-city, Fukuoka
802-8601, Japan

Tel; 093-951-2707 Fax; 093-922-6789

E-mail;

URL; <http://www.toto.co.jp>

Category:

● B5. Energy Saving

This closet stool features "Tornado Cleaning," which cleans the entire stool with jet water from a nozzle at the back of the stool. While high washing function is maintained, it achieves water savings of up to 49%. In addition, power use to heat the water to wash the hips is reduced to half that needed for existing technology thanks to the "Wonder Wave Cleaning" function which repeats strong and weak spouting more than 70 times a minute. It is an energy-saving design which features a ceramic heater with high-heat-efficiency for a flash water heater that warms water only when needed. Moreover, the electricity cost is more than halved compared with the existing products because the stool learns a life pattern only by a switch.

Translation query: Do not follow the meaning of the last line of text.



Eco-products No.0227

Commodity / Outdoor Goods / Housing Kit

Urinal

Sensor-attached urinal featuring water-saving and energy-saving

INAX Corporation

5-1, Koiehonmachi, Tokoname, Aichi 479-8585 Japan

Tel; Fax;

E-mail;

URL; <http://inax.co.jp/>

Category:

- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This sensor-attached urinal includes the power generation function that effectively converts spouting power into electrical energy. Accordingly, this urinal can operate with the energy from its power generation. Cleaning the urinals using 1 to 2 liters of water depending of the condition of ues results in the effect about 70% water-saving compared to existing products



Products/Model :

"Sensor urinal, AWU-506RAMP etc"

Eco-products No.0228

Commodity / Outdoor Goods / Housing Kit

Shower head attachment

Water-saving shower head attachment

TOTO Ltd.

1-1, Nakashima 2-chome, Kokurakita-ku, Kitakyushu-City, Fukuoka 802-8601, Japan

Tel; 093-951-2707 Fax; 093-922-6789

E-mail;

URL; <http://www.toto.co.jp>

Category:

- B5. Energy Saving

This shower allows you to start and stop the water flow by simply pushing the shower head button. This avoids continuous running of water while you are washing your hair etc, resulting in significant savings in water and gas. In addition, since a thermostatic faucet automatically adjusts the water temperature, it avoids the waste of water while you are waiting for the temperature to adjust.



Eco-products No.0229

Commodity / Outdoor Goods / Housing Kit

Faucet Fittings

e Modern: Faucet designed with water saving in mind

INAX Corporation

5-1, Koiehonmachi, Tokoname, Aichi, 479-8585 Japan

Tel; Fax;

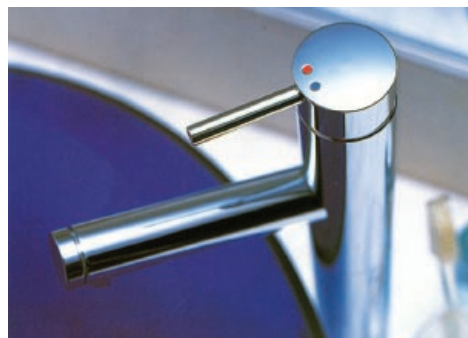
E-mail;

URL; <http://inax.co.jp/>

Category:

- B3. Resource Saving
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair

This faucet is equipped with "Eco Dial", which has newly developed water saving function to prevent water from running freely. All you have to do is to choose "eco mode" of "Eco Dial", and you can save water up to 50%.



Products/Model :

e Modern faucet, LF-E340SC etc

Eco-products No.0230

Commodity / Outdoor Goods / Housing Kit

Faucet attachment

Automatic faucet considering water and energy saving "Automage"

INAX Corporation

5-1, Koiehonmachi, Tokoname, Aichi 479-8585 Japan

Tel; Fax;

E-mail;

URL; <http://inax.co.jp/>

Category:

- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This automatic faucet includes the self-power generation function that converts effectively spouting power into electrical energy, thereby operating with the energy from this self-power generation. Additionally, because of structure of tiny mist spouting, splashing of water around the faucet is less and you can wash your hands well with less water.



Products/Model :

Automatic faucet, AM-91K etc.

Eco-products No.0231

Building and Civil Engineering

Pipe

Sewer pipe renovation method for sewers with high acid resistance

KAJIMA CORPORATION

2-7, Motoakasaka 1chome, Minato-ku, Tokyo, 107-8388 Japan

Tel; 03-3404-3311 Fax; 03-3470-1444

E-mail;

URL; <http://www.kajima.co.jp/>

Category:

- B1. Recyclability
- B2. Longevity
- B4. Higher Quality
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

This renovation method is suitable for sewerage pipeline where the concrete pipe has been damaged due to sulfuric acid. The renovation pipe (RC and FRPM pipes are available) is resistant to acids, including sulfuric acid. The renovation pipe is structurally durable and can withstand high earth and water pressures, making it excellent for weakened existing sewer line. The renovation involves penetrate the RC or FRPM pipes inside the existing pipe through propulsion, effectively extending the life of the existing sewer.

Furthermore, one step smaller size of internal flowing area or larger is secured even after the renovation.



Products/Model :
BUCKS Pipe

Eco-products No.0232

Building and Civil Engineering

Interlocking blocks

Concrete pavement block incorporating over 50% refuse ash liquid slag

MATUYA INDUSTRY CORPORATION

4-6, Koura-machi, Nagasaki, 850-0067 Japan

Tel; 095-865-1522 Fax; 095-865-0441

E-mail; matuya@d2.dion.ne.jp

URL; <http://www.d2.dion.ne.jp/~matuya/>

Category:

- A1. Global Warming
- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C6. End-of-Life

This pavement block is produced with liquid slag from refuse incineration of mixed ash which reduces waste. After use it can be broken up and recycled as a raw material. It meets Environment Agency criteria for the elution of heavy metals. It also meets environmental standards on carry-in, production and product transport and is an EcoMark-certified product.



Products/Model :
MT ECO INTERROCKING BLOCK

Eco-products No.0233

Building and Civil Engineering

Pavement Material

“NOXER” Pavement block to help combat air pollution

MITSUBISHI MATERIALS CORPORATION

19F Otemachi First Square West, 1-5-1, Otemachi, Chiyoda-ku, Tokyo,
100-8117 Japan

Tel; 03-5252-5331 Fax; 03-5252-5344

E-mail; noxer@mmc.co.jp

URL; <http://www.mmc.co.jp/>

Category:

- A2. Air Pollution
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

“NOXER” pavement blocks remove nitrogen oxides (NO_x) from the air using the energy of ultraviolet radiation from sunlight. The clean-up system works as follows: The cement mortar layer on the surface of the blocks contains dispersed titanium dioxide powder, which causes a catalytic reaction when exposed to ultraviolet radiation.

This multifunctional product can be colored in a similar way to conventional inter locking blocks and concrete plates, and processed to make it permeable.



Products/Model :
NOXER

Eco-products No.0234

Building and Civil Engineering

Continuous Subterranean Diaphragm Wall Members

Continuous subterranean diaphragm wall members for urban areas

Nippon Steel Corporation

2-6-3 Otemachi Chiyodaku Tokyo, 100-8071 Japan

Tel; 03-3275-5144 Fax; 03-3275-5979

E-mail; kankyo@hq.nsc.co.jp

URL; <http://www0.nsc.co.jp/kankyou/index.html>

Category:

- A4. Waste
- A5. Resource Consumption
- B5. Energy Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

Nippon Steel's NS-BOX (continuous subterranean diaphragm wall members) for the walls of urban subterranean structures reduces the generation of waste soil by reducing wall thickness. It also shortens the construction period by eliminating the need for concrete reinforcing bars, reduces the space required at construction sites, and eases traffic congestion in urban areas.



Eco-products No.0235

Building and Civil Engineering

Wet pavement system

Sidewalk 'Wet' pavement system to counter heat island phenomenon

Obayashi Corporation, Technical Research Institute

640, Shimokiyoto 4-chome, Kiyose-shi Tokyo, 204-8558 Japan

Tel; 0424-95-1044 Fax; 0424-95-1260

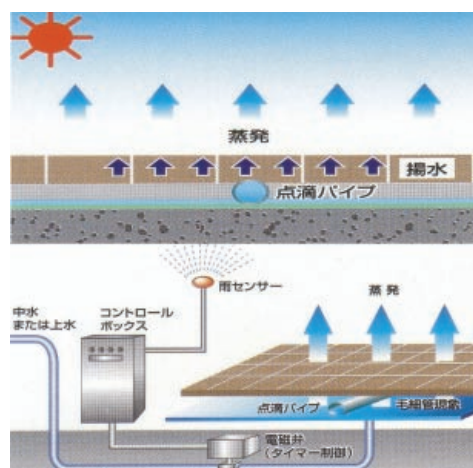
E-mail; komiya.hidetaka@obayashi.co.jp

URL; <http://www.obayashi.co.jp/>

Category:

- A1. Global Warming
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The 'wet pavement' system (water sprinkling road system), can reduce summer daytime temperature of road surfaces by approximately 25°C lower than asphalt pavement. The wet pavement surface reduces sunlight reflection, relieving both heat and glare. A dripping water supply pipe provides a continuous cooling effect even if fine weather continues for several days. Water quantity required is 5-6 m³/m for a typical fine day in summer.



Products/Model :

Wet Pavement System (Uchimizu-Pave)

Eco-products No.0236

Building and Civil Engineering

Seismic Isolation Retrofit

Seismic Isolation Retrofit construction method to improve earthquake resistance of existing buildings

SHIMIZU CORPORATION

No.2-3, Shibaura 1-chome, Minato-ku, Tokyo 105-8007 JAPAN

Tel; 03-5441-1111 Fax; 03-5441-0358

E-mail; env@shimz.co.jp

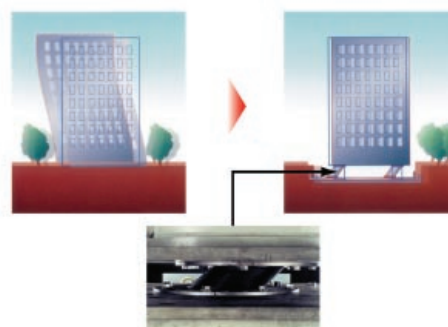
URL; <http://www.shimz.co.jp/>

Category:

- A4. Waste
- B2. Longevity
- B3. Resource Saving
- C3. Design and Material Selection
- C4. Product Manufacture

This technology involves the installation of a seismic isolator to improve a structure's resistance to earthquakes and so extend its lifespan.

It makes a significant contribution to resource-savings associated with the replacement of buildings that might otherwise collapse during an earthquake. It also reduces the potential for waste generation since there is little chance of a retrofit building collapsing during a severe earthquake.



Products/Model :

SHIMIZU SEISMIC ISOLATION RETROFIT

Eco-products No.0237

Building and Civil Engineering

Concrete Recycling Technology

Recycling system that allows concrete to be continually re-used, cutting down on waste

SHIMIZU CORPORATION

SEAVANS SOUTH, 1-2-3, Shibaura, Minato-ku, Tokyo 105-8007 JAPAN

Tel; 03-5441-1111 Fax; 03-5441-0358

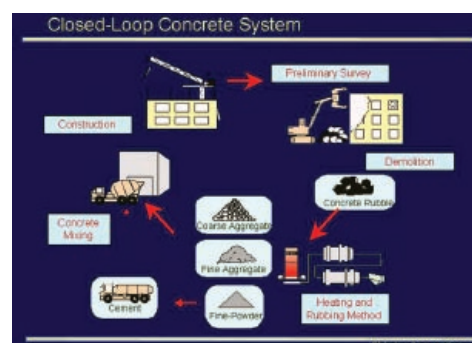
E-mail; env@shimz.co.jp

URL; <http://www.shimz.co.jp/>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C4. Product Manufacture
- C6. End-of-Life

This technology re-uses recycled aggregate as concrete aggregate for construction. Impalpable powder as raw material of cement or foundation improvement material or the like. It converts a lump of concrete into high quality recycled aggregate (gravel or sand) and impalpable powder (used mainly as a cement ingredient) once its suitability for recycling has been confirmed. Maintaining the quality of aggregate makes it possible to repeatedly re-use it for the same application. In addition, it ensures 100% reutilization of a lump of concrete.



Products/Model :

Closed-Loop Concrete System

Eco-products No.0238

Building and Civil Engineering

ECO Drainage

Eco-friendly reformed asphalt drainage pavement for improved safety

Showa Shell Sekiyu K.K.

Daiba Frontier Building 3-2, Daiba 2 chome Minatoku, Tokyo, 135-8074 Japan

Tel; 03-5531-5765 Fax; 03-5531-5769

E-mail;

URL; <http://www.showa-shell.co.jp>

Category:

- A1. Global Warming
- B2. Longevity
- B6. Environmental Purification
- C4. Product Manufacture
- C5. Product Use, Maintenance and Repair

The use of asphalt pavement with larger surface voids reduces the level of rainwater on the pavement surface, improving traffic safety. Another benefit, for residential areas, is its noise reduction capacity. In addition, ECO Drainage allows production of asphalt hot mixes at lower temperatures than competitors' products and so contributes to the prevention of global warming. The pavement has a long life due to its high durability and this lowers its life cycle cost.



Products/Model :

Drainage ECO

Eco-products No.0239

Building and Civil Engineering

Cement

Ecocement for civil engineering /construction materials made from recycled ash

Taiheiyo Cement Corporation

St.Luke's Tower, 8-1, Akashi-cho, Chuo-ku, Tokyo 104-8518 Japan

Tel; 03-6226-9088 Fax; 03-6226-9173

E-mail; hirotaka_semba@taiheiyo-cement.co.jp

URL; <http://www.taiheiyo-cement.co.jp/>

Category:

- A3. Hazardous Substance
- A4. Waste
- B1. Recyclability
- B6. Environmental Purification
- C4. Product Manufacture

Municipal incineration ash is often sent to land-fill, raising concerns that its heavy metal content could cause environmental damage. Ecocement recycles this municipal incineration ash as a raw material. Harmful substances in the ash are broken down and detoxified and heavy metals are reclaimed for recycling. Ecocement reduces the amount of ash sent to land-fill, saves resources and makes a major contribution to recycling.



Products/Model :
Ecocement

Eco-products No.0240

Building and Civil Engineering

Recycled Aggregate Concrete

Recycled Aggregate Concrete for Civil Engineering

Taisei Corporation

1-25-1 Nishi-Shinjuku, Shinjuku-ku, Tokyo, 163-0606 Japan

Tel; 03-3348-1111 Fax;

E-mail;

URL; <http://www.taisei.co.jp/>

Category:

- A4. Waste
- B1. Recyclability
- C6. End-of-Life

In Japan, construction waste accounts for 20% of all industrial waste. In particular, concrete waste is expected to rapidly increase in the future. Most demolished concrete blocks are currently re-used as base road materials. It is now very important to develop new applications other than base road materials. In this development, recycled aggregate of good quality is collected from demolished concrete blocks following demolition and re-used as structural concrete. This recycled aggregate concrete offers the same quality as conventional aggregate concrete but promotes concrete recycling.



Eco-products No.0241

Building and Civil Engineering

Concrete Bridge

High-performance DUCTAL PC BRIDGE offering resource savings for Social Infrastructure

Taisei Corporation

1-25-1 Nishi-Shinjuku, Shinjuku-ku, Tokyo, 163-0606 Japan

Tel; 03-3348-1111 Fax;

E-mail;

URL; <http://www.taisei.co.jp/>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B2. Longevity
- B3. Resource Saving
- B4. Higher Quality

DUCTAL is a new material from concrete series and is five times stronger and 10 times more durable than conventional concrete. The application of DUCTAL to bridges reduces component thickness to a quarter of conventional thickness and cuts the weight by 75%. In addition, its durability gives it an expected lifespan of at least 100 years. Less volume of material is needed and it has a long life, so the environmental loads to can be substantially reduced. A trial calculation shows a 70 % reduction of CO₂ emissions.



Products/Model :
DUCTAL PC BRIDGE

Eco-products No.0242

Building and Civil Engineering

Spray-on heat insulating material

Ceramilite-eco: Non-Freon spray-on flame retardant heat insulating material using recycled product from foam polystyrene as an aggregate
Ceramilite-ecoG: The material equivalent to Ceramilite-eco employed for GL construction method

Obayashi Corporation, Technical Research Institute

640 4-chome, Shimokiyoto, Kiyose-shi, Tokyo 204-8558 Japan

Tel; 0424-95-0970 Fax; 0424-95-0908

E-mail;

URL; <http://www.obayashi.co.jp/>

Category:

- A1. Global Warming
- A4. Waste
- B5. Energy Saving
- B7. Usage of Recycled Material
- C2. Material and Components Production

In this construction method, we use spray-on heat insulating material on-site. It does not use Freon-gas, Freon-gas substitute or VOCs which cause 'sick house' syndrome.

It also contributes to environmental conservation by using recycled products from fractured styrene foam waste as an aggregate for adding adiabaticity.



Products/Model :
Ceramilite-eco, Ceramilite-ecoG

Eco-products No.0243

Building and Civil Engineering

Brick

Recycled non-burned brick for local autonomous bodies and businesses etc.

Tokyo Electric Power Environmental Engineering Co. Inc.

6-14, 4-Chome, Shibaura, Minatoku, Tokyo, 108-8537 Japan

Tel; 03-4511-7844 Fax; 03-3452-4617

E-mail; kanzaki-hiroshi@mail.tee-kk.co.jp

URL; <http://www.tee-kk.co.jp>

Category:

- A1. Global Warming
- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C4. Product Manufacture

“Earthen Bricks” are non-burned bricks using recycled materials from the by-products and waste products discharged from businesses and local autonomies. Recycled material accounts for over 80% of the total ingredients. Furthermore CO₂ emission is reduced by about 40% with this product, compared with conventional burned bricks thanks to a new technology called “non-burned caking technology”, which enables densification and caking with air-drying. This product plays an important part in building a recycling-based society with zero emissions.



Products/Model :
Earthen Brikcs/ SS, SC

Eco-products No.0244

Building and Civil Engineering

Road Material

Recyclable Road Material (for JH)

Toyo Tire & Rubber Co., Ltd.

17-18, Edobori 1-chome, Nishi-ku, Osaka-shi, Osaka, 550-8661 Japan

Tel; 06-6441-8801 Fax;

E-mail;

URL; <http://www.toyo-rubber.co.jp/>

Category:

- A4. Waste
- B1. Recyclability
- B2. Longevity
- B7. Usage of Recycled Material
- C6. End-of-Life

Recycled polyethylene resin waste is used for road materials (medial strip) by the Japan Highway Public Corporation. It has been awarded the eco-mark certificate by the Japan Environment Association. About 2000 materials are produced per month. They are fully recycled.



Products/Model :
TOYO ECO BLOCK TYPE A

Eco-products No.0245

Building and Civil Engineering

Collapsible Returnable Container

Environment-friendly returnable container used in factories, etc for transporting components

APPAX Co., Ltd.

1228-69 Osashimacho, Ena-shi, Gifu, 509-7205 Japan

Tel; 0573-26-3155 Fax; 0573-25-6132

E-mail; yoshikazu_yoshimura@appax.com

URL; <http://www.appax.com>

Category:

● A4. Waste

Plastic chips discarded in our factories are recycled to make components. "Apacon" that is no longer in use by customers is crushed and restored to petroleum by means of waste plastic recycling equipment, and then, converted to electric power with a dynamo. Electric power generated that way is distributed and consumed in our factories (thermal recycle).



Products/Model :

APACON

Eco-products No.0246

Building and Civil Engineering

Biodegradable material

Biodegradable foamed sheet used in packaging and wrapping

The Furukawa Electric Co., Ltd.

6-1, Marunouchi 2-chome, Chiyoda-ku, Tokyo, 100-8322 Japan

Tel; 03-3286-3467 Fax; 03-3286-3472

E-mail; mr921931@mr.furukawa.co.jp

URL; <http://www.furukawa.co.jp>

Category:

● A4. Waste

● B6. Environmental Purification

● C6. End-of-Life

When these foamed sheets used in packaging and wrapping are disposed of in landfills, they are completely broken down by the action of microorganisms in approximately one year. We have developed an environment-friendly foaming process based on our proprietary technology.



Products/Model :

Biodegradable Resin Foam • BIO ACE

Eco-products No.0247

Building and Civil Engineering

External house wall

External wall with high-thermal insulation

Daiwa House Industry Co., Ltd.

3-5, 3-chome, Umeda, kita-ku, Osaka, 530-8241 Japan

Tel; 06-6342-2111 Fax;

E-mail;

URL; <http://www.daiwahouse.co.jp/>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This wall is typically used for houses in Hokkaido and Northern Tohoku and includes rigid urethane foam as thermal insulation material. The urethane foam is superior in thermal insulation compared with fiber thermal insulation such as glass wool. Moreover, there is no thermal insulation degradation because of low water absorption and humidity. High air tightness and thermal isolation is realized because the void is fully packed. This urethane foam is made by water foaming without using Freon, thereby helping to prevent ozone layer destruction.



Products/Model :
External house wall

Eco-products No.0248

Building and Civil Engineering

Insulating panel for residential houses

Energy/resource-saving oriented insulating panel for wooden residential houses

TOSTEM CORPORATION

1-1, Ojima 2-chome, Koto-ku, Tokyo 136-8535 Japan

Tel; 03-3638-8187 Fax; 03-3638-8352

E-mail;

URL; <http://www.tostem.co.jp/>

Category:

- A1. Global Warming
- B2. Longevity
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The insulating panel not only contributes to energy-saving through load reduction of air-conditioners at residential houses, but also promotes high durability of the houses through its earthquake-proof panel structure. Its insulation materials deploy "non-CFC forming polyurethane," which uses carbonic acid gas with ozone layer depletion coefficient 0 and global warming coefficient 1. In consideration of measures against sick house, the materials also use OSB (oriental stand board) with F four stars (F☆☆☆☆) grade which emits least formaldehyde. The product is selected as one of the products with our own "Type II Eco-Label", based on our internal standard.



Products/Model :
prefabricated insulated housing panel

Eco-products No.0249

Building and Civil Engineering

Artificial soil for Re-vegetation

Woodchip-board [Artificial soil for re-vegetation with recycled woodchips]

Obayashi Corporation

Shinagawa Intercity Tower B 2-15-2, Konan, Minato-ku Tokyo, 108-8502 Japan

Tel; 03-5769-1322 Fax; 03-5769-1978

E-mail; hamai.kunihiko@obayashi.co.jp

URL; www.obayashi.co.jp/

Category:

- A1. Global Warming
- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C4. Product Manufacture

This product recycles woodchips from trees that have been cut down and abandoned after land formation. A grout coating ensures that the chips combine firmly, producing a woodchip board with outstanding durability. It has consecutive voids, providing an environment where plants can grow even in severe conditions such as acid soil or concrete walls.



Products/Model :

tip-board(500×500×30mm)

Eco-products No.0250

Building and Civil Engineering

Paint

Building exterior paint invented with energy conservation in mind

Nagashima Special Paint Co., Ltd.

2-1-5-8F Arakawa, Arakawa-ku, Tokyo, 116-8552 Japan

Tel; 03-5615-5411 Fax; 03-5615-5410

E-mail; kinou@nspg.co.jp

URL; http://www.nspg.co.jp/

Category:

- A1. Global Warming
- B2. Longevity
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

Coating with "Miracool" reflects sunlight about 90%, which curb the rise of the temperature at building roof and wall. In addition, it drastically reduces heat quantity of transmission owing to its low coefficient of thermal conductivity and high long-wave emissivity. Because of these functions, "Miracool" can contribute to energy conservation by making building's cooling load reduced. Not only for energy conservation of building itself, it can also be helpful for mitigating the heat island phenomenon, an extraordinary high temperature in the urban area as a whole, as it is able to control the absorption of solar energy. We can provide "Miracool way" for asphalt-paved road, other than the one for building.



Products/Model :

Miracool

Eco-products No.0251

Building and Civil Engineering

Exterior house wall

House offering improved internal air quality

Daiwa House Industry Co., Ltd.

3-5, 3-chome, Umeda, Kita-ku, Osaka, 530-8241 Japan

Tel; 06-6342-2111 Fax;

E-mail;

URL; <http://www.daiwahouse.co.jp/>

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- B6. Environmental Purification
- C3. Design and Material Selection
- C4. Product Manufacture

This house uses building materials and equipment that release the lowest levels of formaldehyde and VOCs. The materials used are of the highest quality and they do not use chemicals specified by the Ministry of Health, Labor and Welfare with respect to VOCs. Low emission and insect repellent material such as pine material or bamboo material is used for flooring material.

In addition, there are chitosan cloth and Bincho charcoal cloth.



Products/Model :

House

Eco-products No.0252

Building and Civil Engineering

My Roofer

Solvent-free waterproof coating material that helps to control air pollution

MITSUBISHI CHEMICAL FUNCTIONAL PRODUCTS, INC.

8-2, Marunouchi 1-chome, Chiyoda-ku, Tokyo, 100-0005 Japan

Tel; Fax;

E-mail;

URL; <http://www.yes-mks.co.jp>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- A4. Waste
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This acryl emulsion waterproof coating material does not contain solvents or hydrocarbon compounds such as thinner, toluene, or xylene. It doesn't use lead, cadmium, chrome or other toxic substances as pigment. It can be painted over an existing waterproof layer, and so reduces industrial waste. In addition, we have introduced returnable resin containers to reduce the number of discarded containers.



Products/Model :

MYROOFER HG,WG,WGR

Eco-products No.0253

Building and Civil Engineering

Non-flammable synthetic building material

VOC-absorbing MOISS interior building material

Mitsubishi Materials Corporation

19F WEST OFS, 1-5-1, OTEMACHI, CHIYODA-KU, TOKYO,
100-8117 JAPAN

Tel; 03-5252-5331 Fax; 03-5252-5344

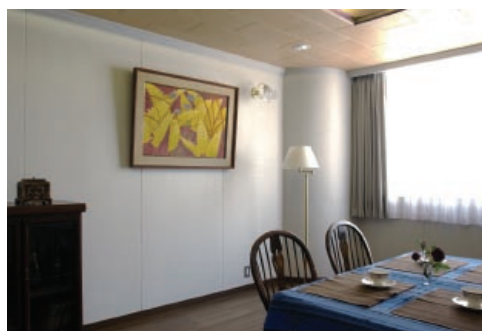
E-mail; fukushi@mmc.co.jp

URL; <http://www.mmc.co.jp>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B4. Higher Quality
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

MOISS is a non-flammable synthetic building material. Since it is porous and has a large surface area, it helps to absorb and stabilize harmful Volatile Organic Compounds (VOCs). Its surroundings benefit from its moisture controlling and deodorizing properties. Surplus material can be recycled as silicic acid fertilizer for plants.



Products/Model :
MOISS

Eco-products No.0254

Building and Civil Engineering

Handrail

Handrail for construction made of wood waste and non-PVC plastics

Nagase&Co., Ltd.

5-1, Nihonbashi-kobunacho, Chuo-ku Tokyo, 103-8355 JAPAN

Tel; 03-3665-3231 Fax; 03-3665-3026

E-mail; pwshop@ex-nagase.co.jp

URL; <http://www.nagase-direct.co.jp/pluswood/>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B7. Usage of Recycled Material
- C1. Material Extraction
- C6. End-of-Life

Pluswood is a compound of wood flour and non-PVC plastic. The wood flour is produced by pulverizing unused wood waste and scrap wood, contributing to forest preservation and the reduction of waste. Since plastics used in the product are non-PVC and do not contain chlorine which may generate dioxins, it helps to prevent environmental pollution. Further, the handrail is highly recyclable with no strength deterioration even at 100% recycling so recycled parts can be re-used for the same product once again.



Products/Model :
Pluswood Handrail

Eco-products No.0255

Building and Civil Engineering

Wooden interior materials

Eco-friendly S-wood interior-board

Shinwa Wood Industrial Co., Ltd.

Suetyou 7-178-1, Kakamigahara-city, Gifu-prefecture, 509-0108 Japan

Tel; 0583-84-8784 Fax; 0583-70-2859

E-mail; LEJ5626@nifty.ne.jp

URL; <http://www.shinwa-m.com>

Category:

- A1. Global Warming
- A2. Air Pollution
- A3. Hazardous Substance
- A4. Waste
- A5. Resource Consumption

This product uses wood waste (Japanese cypress) and therefore contributes to forest regeneration and helps to prevent global warming. It is made with safe, non-toxic adhesives and eco polyurethane/natural paint which does not contain PRTR registered substances. This helps to minimize harmful VOCs and the emission of dioxin/SOX on incineration. Cared for properly, it will give long term use and the materials are then suitable for recycling.



Products/Model :

S-wood interior-board (cypress or cedar)

Eco-products No.0256

Building and Civil Engineering

High-tech Interior Wall Material

Selan Cloth, an intention for healthy designed with environmental preservation in mind.

C-PRO Co., Ltd.

1405-3 , Akishino-cho , Nara city , Nara 631-0811 Japan

Tel; 0742-53-0050 Fax; 0742-53-8190

E-mail; corp-info@cpro.jp

URL; <http://www.cpro.jp/>

Category:

- A1. Global Warming
- A4. Waste
- B4. Higher Quality
- B5. Energy Saving
- C4. Product Manufacture

“Selan Cloth” is a nonwoven wallpaper impregnated with “Keisou Stone”, a material consisting of diatom earth to which “Hyper Selan” has been added. The result is a material combining the absorbency of porous diatom earth with the decomposition and reduction functions of “Hyper Selan”. As a result, “Selan Cloth” can absorb and breakdown formaldehyde, normalizing the air in rooms where it is used. “Selan Cloth” can also absorb dust mites, mold, noxious substances, particles such as airborne bacteria, and odors in room air, decomposing and reducing these materials through the action of silver ions. “Selan Cloth” is made from 100% natural material, so it will not contribute to the industrial waste problem when discarded – another way in which “Selan Cloth” is friendly to the environment.



Eco-products No.0257

Building and Civil Engineering

High-tech Interior Wall Material

Selan Tile, an intention for healthy material designed with environmental preservation in mind

C-PRO Co., Ltd.

1405-3, Akishino-cho , Nara city, Nara 631-0811 Japan

Tel; 0742-53-0050 Fax; 0742-53-8190

E-mail; corp-info@cpro.jp

URL; <http://www.cpro.jp/>

Category:

- A4. Waste
- B5. Energy Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

“Selan Tile” is a fired tile consisting of “Hyper Selan” and clay and having outstanding water absorption properties. When used as flooring tile for bath and shower areas, this water absorption property helps prevent slipping, and, the material can absorb dust mites, mold, noxious substances, particles such as airborne bacteria, and odors in room air, decomposing and reducing these materials through the action of silver ions. “Selan Tile” is made from 100% natural material, so it will not contribute to the industrial waste problem when discarded – another way in which “Selan Tile” is friendly to the environment.



Products/Model :
Selan Tile

Eco-products No.0258

Building and Civil Engineering

High-tech Interior Finish Material

Keisou Stone, an interior finishing material designed with environmental preservation in mind.

C-PRO Co., Ltd.

1405-3 , Akishino-cho , Nara city , Nara 631-0811 Japan

Tel; 0742-53-0050 Fax; 0742-53-8190

E-mail; corp-info@cpro.jp

URL; <http://www.cpro.jp/>

Category:

- A4. Waste
- B5. Energy Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

“Keisou Stone” is a product made by adding “Hyper Selan” to diatom earth. The result is a material combining the absorbency of porous diatom earth with the decomposition and reduction capacity of “Hyper Selan”. As a result, “Keisou Stone” can absorb and breakdown formaldehyde, normalizing the air in rooms where it is used. Keisou Stone can also absorb dust mites, mold, noxious substances, particles such as airborne bacteria, and odors in room air, decomposing and reducing these materials through the action of silver ions. “Keisou Stone” is made from 100% natural material, so it will not contribute to the industrial waste problem when discarded – another way in which “Keisou Stone” is friendly to the environment.



Products/Model :
Keisou Stone

Eco-products No.0259

Building and Civil Engineering

Green molding for rooftop

Growing substrate with recycled rock wool for rooftop use

Toda Corporation

5-34, Akasaka 8-Chome, Minato-Ku, Tokyo, 107-0052 JAPAN

Tel; 03-5785-1541 Fax; 03-5785-1506

E-mail; akihiro.miwa@toda.co.jp

URL; <http://www.toda.co.jp>

Category:

- A1. Global Warming
- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C2. Material and Components Production

Waste rock wool, separated from the ceiling materials of scrap and repair by board separator, undergoes special processing to make it suitable for plant cultivation. It is then mixed with organic materials such as peat moss. The substrate for cultivation features: light specific gravity of 0.18 and high water retention performance of over 60%. The substrate consists of three phases -- 6% of solid phase, 54% of vapor phase, and 40% of liquid phase. The substrate is lightweight and has high water retention capability, and high roothold ability because of the high ratio of vapor and liquid phases. Since we are using recycled materials, we examine the substrate performance (composition analysis and effluent analysis) of each product lot in order to maintain the performance and quality.



Products/Model :

Roof tree planting culture medium

Eco-products No.0260

Building and Civil Engineering

Steel tube pile

Screw-penetrating steel-tube-pile for engineering with no surplus excavation soil generated

Sumitomo Metal Industries, Ltd.

1-8-11 Harumi chuo-ku, Tokyo, 104-6111 Japan

Tel; 03-4416-6111 Fax; 03-4416-6793

E-mail; chikyu-kan@sumitomometals.co.jp

URL; <http://www.sumitomometals.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair

Since it penetrates in rotary fashion and generates no surplus excavation soil, the Geo Wing Pile is an environmentally-friendly foundation pile. Since it is easily withdrawn in reverse, it can be easily deployed and redeployed. The end of the Geo Wing Pile is a closed-off cone and it has three wings on the steel tube near the tip. Diameter can be freely defined within a range of 1.5 to 2.0 times the diameter of the steel tube. Geo Wing Pile is much faster than conventional rotary piles when aligning the center of the pile, and the three wings are designed to give improved penetration.



Products/Model :

Geo Wing Pile

Eco-products No.0261

Building and Civil Engineering

Impermeable pile

Perfect impermeable pile for waste-disposal facilities to prevent pollutant groundwater run-off

Sumitomo Metal Industries, Ltd.

1-8-11 Harumi chuo-ku, Tokyo, 104-6111 Japan

Tel; 03-4416-6111 Fax; 03-4416-6793

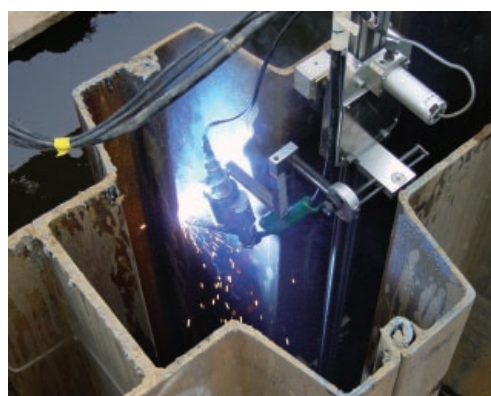
E-mail; chikyu-kan@sumitomometals.co.jp

URL; <http://www.sumitomometals.co.jp>

Category:

- A4. Waste
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair

By welding the splice junction of the SM-J pile with its proprietary steel material, Sumitomo Metals has developed a lateral perfect impermeable method that may be used as a vertical wall, preventing the run-off of pollutants into groundwater in offshore and onshore waste disposal facilities, reducing soil pollution. When used in offshore land fills, double impermeability can be obtained by draining a box-shaped J pile and welding the junction. It is then easy to inspect and maintain the impermeability, and the box space can also be used to monitor water quality.



Products/Model :

SM-J Pile

Eco-products No.0262

Building and Civil Engineering

Electric Wire/Cable

Environmentally-friendly recyclable electric wire/cable that doesn't contain halogen or heavy metal

Fujikura Ltd.

1-5-1 Kiba, Koto-ku, Tokyo 135-8512 Japan

Tel; 03-5606-1272 Fax; 03-5606-1549

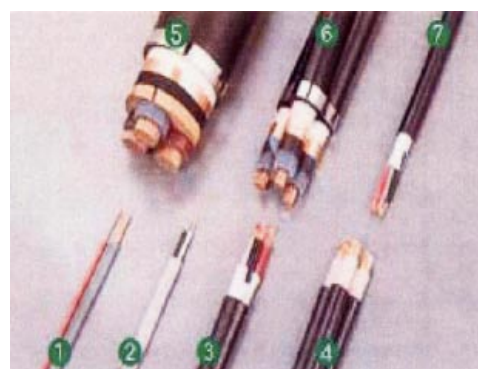
E-mail; wwwadmin@fujikura.co.jp

URL; <http://www.fujikura.co.jp/>

Category:

- A3. Hazardous Substance
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- A4. Waste

- This product doesn't generate dioxin, halogen gas or other toxic substances on incineration.
- It does not contain lead and so eliminates concern about the elution of heavy metal if disposed by landfill.
- It is recyclable and easy to recover separately from polyvinyl chloride using water because the specific gravity of its material is about 1.1 s.g., smaller than that of polyvinyl chloride (about 1.4 s.g).
- It uses polyolefin material, which can be dyed and is as flexible and as flame retardant as polyvinyl chloride.
- In the event of fire, it does not generate excessive smoke or toxic gases such as halogen.



Products/Model :

EM IE/F EM-CE/F etc

Eco-products No.0263

Building and Civil Engineering

Underground Cable Duct

The underground cable duct made from recycled plastic

The Furukawa Electric Co., Ltd.

6-1, Marunouchi 2-chome, Chiyoda-ku, Tokyo, 100-8322 Japan

Tel; 0463-24-8350 Fax; 0463-24-8347

E-mail; r-d@ho.furukawa.co.jp

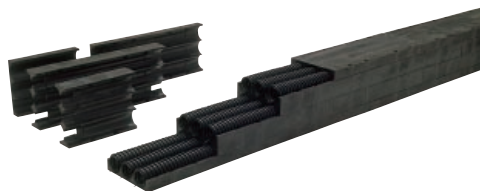
URL; <http://www.furukawa.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C1. Material Extraction
- C6. End-of-Life

This multiple-bore underground cable duct makes effective use of waste plastic. The product, "KOHTA KUN", has acquired the ECO mark.

"KOICHI KUN" duct is also excellent for the information box use.



Products/Model :

Underground Cable Duct Made of Cable Waste
"KOHTA KUN", "KOICHI KUN", Green Traph

Eco-products No.0264

Machines and Equipments

X-ray Computed Tomography (CT)

Environmentally-friendly multi-slice helical CT scanner

TOSHIBA MEDICAL SYSTEMS CORPORATION

1385, Shimoishigami, Otawara-Shi, Tochigi, 324-8550 Japan

Tel; 0287-26-6673 Fax; 0287-26-6053

E-mail; katsuyoshi.ishii@toshiba.co.jp

URL; <http://www.toshiba-medical.co.jp/tmd/>

Category:

- A4. Waste
- B3. Resource Saving
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

This device achieves a total resource saving of 50% due to the development of a new data acquisition unit, large volumetric and high-speed reconstructive equipment, and new image reconstruction. In addition, it has been developed using alternatives to cadmium and other materials that can damage the environment.



Products/Model :

CT Scanner Aquilion (TSX-101A)

Eco-products No.0265

Machines and Equipments

Heat Pump Type Chiller

High efficiency heat pump type chiller using natural refrigerant

TOYO ENGINEERING WORKS

1634, Shimoturuma, Yamato City, Kanagawa, 242-0001 Japan

Tel; 046-272-3053 Fax; 046-272-3967

E-mail; tew2050@toyo-ew.co.jp

URL; <http://www.h.toyo-ew.co.jp/>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This heat pump type chiller uses ammonia, a natural coolant that scores zero in both ozone-depleting potential (ODP) and global warming potential (GWP). It achieves high efficiency of 5.1/4.9 in COP (50/60Hz in operating period) and reduced CO₂ emission by means of ammonia refrigerant with high theoretical COP, a high efficiency compressor, and a water-spray type air heat exchanger that enhances the cooling effect.



Products/Model :

The efficient heat pump chiller of R717

Eco-products No.0266

Machines and Equipments

Bio-Diesel Fuel Plant

BDF Plant for Diesel Oil Alternative Fuel to fight Global Warming

Cosmo Engineering Co., Ltd.

2-5-8 Higashi-shinagawa Shinagawa-ku, Tokyo, 140-0002 Japan

Tel; 03-5462-0150 Fax; 03-5462-0159

E-mail;

URL; <http://www.cosmoeng.co.jp>

Category:

- A1. Global Warming
- A2. Air Pollution
- A3. Hazardous Substance
- B5. Energy Saving
- B6. Environmental Purification

Bio-diesel fuel is a diesel oil alternative fuel that uses esterified animal and plant oil for short chain alcohol. The fuel has received attention as a result of efforts to prevent global warming, because it reduces CO₂ emissions. In addition, its flue gas is cleaner than that of diesel oil, making it eco-friendly. This plant improves the production efficiency of bio-diesel fuel, using high-productivity palm oil as stock oil and a high-efficiency reactor.



Eco-products No.0267

Machines and Equipments

Fuel Cell System

Eco-friendly 850VA fuel cell system

Ebara Corporation

11-1 Haneda Asahi-cho, Ohta-ku, Tokyo 144-8510 Japan

Tel; 03-5735-3029 Fax; 03-5735-3170

E-mail; yanagida.hiroyuki@ebara.com

URL; <http://www.ebara.co.jp>

Category:

- A1. Global Warming
- A2. Air Pollution
- A5. Resource Consumption
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair

FCBox is an 850VA (AC 100V) fuel cell system that uses pure hydrogen as fuel. The system emits only by-products of heat and water after power generation, so avoids environmental impact from substances such as CO₂, NO_x and SO_x. It is very useful for a variety of applications such as providing back-up power for information and communication systems, emergency power during disasters and mains power for construction and other types of work.



Products/Model :

FCBox

Eco-products No.0268

Machines and Equipments

Fuel Cell Module

DC 1200W fuel cell module

Ebara Corporation

11-1 Haneda Asahi-cho, Ohta-ku, Tokyo 144-8510 Japan

Tel; 03-5735-3029 Fax; 03-5735-3170

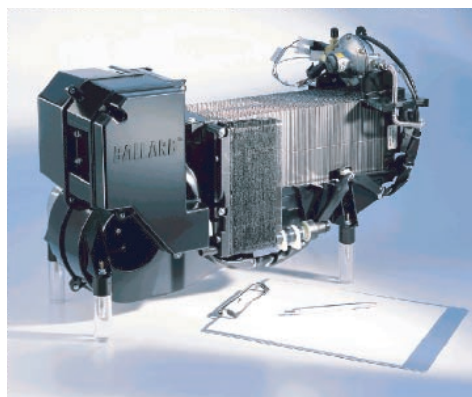
E-mail; yanagida.hiroyuki@ebara.com

URL; <http://www.ebara.co.jp>

Category:

- A1. Global Warming
- A2. Air Pollution
- A5. Resource Consumption
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair

Nexa is a DC 1200W fuel cell module that uses pure hydrogen as fuel. The system emits by-products of only heat and water after power generation, avoiding environmental impact associated with substances such as CO₂, NO_x and SO_x. It can be incorporated into a variety of applications such as compact generators and small cars and used as generation parts.



Products/Model :

Nexa

Eco-products No.0269

Machines and Equipments

Micro Gas Turbine

Eco-friendly Ebara Micro Gas Turbine TA100: Offers energy-savings and cost-savings

Ebara Corporation

11-1 Haneda Asahi-cho, Ohta-ku, Tokyo 144-8510 Japan

Tel; 03-5461-6111 Fax; 03-3745-0822

E-mail; ma-microgasturbine@ebara.co.jp

URL; <http://www.ebara.co.jp>

Category:

- A1. Global Warming
- A2. Air Pollution
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The Ebara Micro Gas Turbine TA100 is a co-generation system that produces 95kW electric power and 163 kW heat at the same time. Total efficiency exceeds 70% and which provides energy savings of around 16% while reducing CO₂ by 26% in comparison with conventional systems. It can be used for a variety of applications such as hot water supply, direct application of exhaust gas to drying and air conditioning with a combination of an exhaust gas absorption chiller/heater.



Products/Model :

Ebara Micro Gas Turbine TA100 Co-generation Package

Eco-products No.0270

Machines and Equipments

Home Fuel Cell System

Residential solid oxide fuel cell co-generation system: Reduction of CO₂

Ebara Corporation

11-1 Haneda Asahi-cho, Ohta-ku, Tokyo 144-8510 Japan

Tel; 03-5735-3029 Fax; 03-5735-3170

E-mail; yanagida.hiroyuki@ebara.com

URL; <http://www.ebara.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This co-generation system uses hydrogen city gas and kerosene to generate power for a hot water supply and floor heating. It effectively uses energy from city gas to provide as electricity and heat (hot water). Since most of the energy from city gas can be effectively used at home as electricity and heat (hot water), this system reduces the environmental impact of substances such as CO₂, NO_x and SO_x, while achieving excellent energy conservation.



Products/Model :

Residential 1kW PEFC Cogeneration System

Eco-products No.0271

Machines and Equipments

Wind Generator

Large wind generator: Wind energy converter, renewable energy

Ebara Corporation

11-1 Haneda Asahi-cho, Ohta-ku, Tokyo 144-8510 Japan

Tel; 03-5735-3097 Fax; 03-5735-3167

E-mail; okazaki.hiroshi@ebara.com

URL; <http://www.ebara.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B7. Usage of Recycled Material
- C5. Product Use, Maintenance and Repair

A wind generator is a machine that rotates windmills with wind and generates electricity. Since the generator uses renewable energy (wind), it emits no hazardous chemical substances or CO₂ from power generation, and allows construction of power stations with less environmental impact.

Three blades with a diameter of 50 to 70m rotate a shaft with wind force. This shaft is connected to the generator and its rotation generates electricity. Electricity generated is supplied to local electric power companies.



Products/Model :
Wind turbine / EPW1570

Eco-products No.0272

Machines and Equipments

Gasification Power Generation Plant

“JFE woody biomass gasification system”, distributed power generation plant

JFE Engineering Corporation

1-1-2, Marunouchi, Chiyoda-ku, Tokyo 100-0005, Japan

Tel; 03-3217-3912 Fax; 03-3214-9650

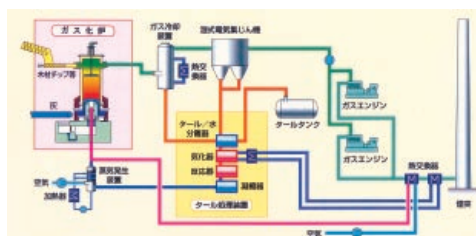
E-mail;

URL; <http://www.jfe-eng.co.jp/>

Category:

- A1. Global Warming
- A4. Waste
- B1. Recyclability
- B4. Higher Quality
- C6. End-of-Life

Sending hot air into the upper layer of an incinerator effectively can create and maintain a stable flame just above the garbage layer and obtain ideal combustion with less CO₂ even in the case of low excess air combustion, coming off a significant reduction in the amount of exhaust gas. By combining an incinerator and ash handling system, energy efficiency is improved by exploiting the heat of ash and recovering waste heat generated in an ash-handling furnace. Incinerated ash is molded to slag that can be used for base course material and aggregate.



Eco-products No.0273

Machines and Equipments

NAS battery energy storage system

NAS battery energy storage system with large-scale energy storage

NGK Insulators, Ltd.

2-56 Suda-cho, Mizuho, Nagoya, 467-8530 Japan

Tel; 052-872-7181 Fax; 052-872-7690

E-mail; pr-office@ngk.co.jp

URL; <http://www.ngk.co.jp/>

Category:

- A1. Global Warming
- A2. Air Pollution
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The NAS battery energy storage system is charged with energy at night, when fossil fuel ratio is low, and discharges electricity during the day. It produces no atmospheric pollutants such as NOx, SOx, or particulate matter, so it is a clean energy storage system compared with self-generation from sources such as diesel generators. Because it uses night time power, which costs less, it helps to reduce electricity costs in factories, office buildings, waterworks and sewage facilities, hospitals and universities etc. The system is also suitable for use as an emergency power supply.



Products/Model :

NAS Battery (Sodium Sulfur Battery) Energy Storage System

Eco-products No.0274

Machines and Equipments

Photovoltaic Module

High efficiency multi-crystalline Photovoltaic module

SHARP CORPORATION

22-22, Nagaike-cho, Abeno-ku, Osaka, 545-8522 Japan

Tel; 06-6621-1221 Fax; 06-6628-1653

E-mail;

URL; <http://www.sharp.co.jp>

Category:

- B1. Recyclability
- B2. Longevity
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving

<High performance> This module realizes the world's highest conversion efficiency for multi-crystalline (14.8%) by reducing reflection on the surface, resistance loss of module, and minimizing electrode.

<Space-saving> Achieves output of about 8% more than our major photovoltaic module when occupying the same area. Therefore space for installation can be reduced by 8% with no loss in output. This means modules can be designed to meet customer requirements where limited roof space is available.



Products/Model :

Photovoltaic Module NE-142AN

Eco-products No.0275

Machines and Equipments

Photovoltaic Module

Photovoltaic module using textured glass

SHARP CORPORATION

22-22, Nagaike-cho, Abeno-ku, Osaka, 545-8522 Japan

Tel; 06-6621-1221 Fax; 06-6628-1653

E-mail;

URL; <http://www.sharp.co.jp>

Category:

- B1. Recyclability
- B2. Longevity
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving

<High performance> Sunlight reflection is reduced by a pyramidal structure (convexo concave) on the surface of the glass. This contributes to dramatically reduced glare for neighbors and improves the surface appearance.

<Space-saving>

This module increases output by about 3.3% compared with our conventional module ND-150AM, thanks to improvements such as the use of textured glass that efficiently takes in incident light.



Products/Model :
Photovoltaic Module ND-155AN

Eco-products No.0276

Machines and Equipments

Cogeneration System

Energy-saving Industrial Cogeneration System

THE JAPAN STEEL WORKS, LTD.

1-2, Yurakucho 1-chome, Chiyoda-ku, Tokyo, 100-8456 Japan

Tel; 03-3501-6111 Fax; 03-3504-0727

E-mail;

URL; <http://www.jsw.co.jp>

Category:

- A1. Global Warming
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This cogeneration system combines a micro gas turbine generator with a freezer containing hydrogen-absorbing alloy. The freezer operates and achieves refrigerating output by means of 280 °C exhaust heat from the generator and 80 °C hot water (80degrees C) is obtained by means of 150 °C exhaust heat discharged from the freezer. The system offers total energy efficiency of about 60%. Furthermore, the freezer does not contain Chlorofluorocarbon that contributes to ozone layer destruction.



Products/Model :
J-MICRO

Eco-products No.0277

Machines and Equipments

Ship Main Engine

Ecological Marine Propulsion UEC Eco-Engine

Mitsubishi Heavy Industries, Ltd.

16-5 Konan 2-chome, Minato-ku, Tokyo 108-8215 Japan

Tel; 03-6716-3951 Fax; 03-6716-5779

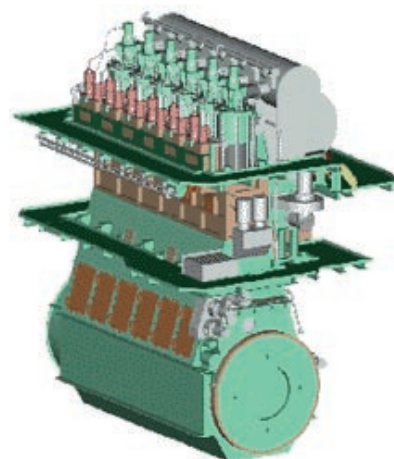
E-mail; san-ene-catalog-senyo@mhi.co.jp

URL; <http://www.mhi.co.jp>

Category:

- A1. Global Warming
- B2. Longevity
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

UEC Eco-Engine is an engine for 21st century, with further improved environmental performance. For example, it reduces NOx emission by 15% and smoke emission also, keep the advantages of conventional UEC engines. Electronic control of fuel injection, exhaust valve, starting and cylinder lubricating systems substantially improves operational cost by reducing fuel oil and cylinder lubricating oil consumption. It also realizes higher reliability.



Products/Model :
UEC Eco-Engine

Eco-products No.0278

Machines and Equipments

Gas engine for power generation

Ecological High Performance Gas Engine MACH-30G

Mitsubishi Heavy Industries, Ltd.

16-5 Konan 2-chome, Minato-ku, Tokyo 108-8215 Japan

Tel; 03-6716-3951 Fax; 03-6716-5779

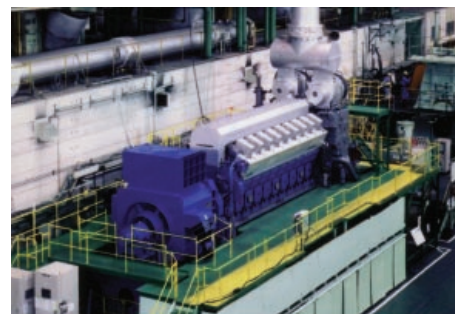
E-mail; san-ene-catalog-senyo@mhi.co.jp

URL; <http://www.mhi.co.jp>

Category:

- A1. Global Warming
- A2. Air Pollution
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

We have achieved an efficiency of 45.7%=NOx level of 320ppm as O₂=0% that is unsurpassed in gas engines. We have also achieved an efficiency of 46.4% (Power factor=1, without engine driven pump) with miller cycle system. MACH-30G maintains high level of efficiency even in low load operation and is much less affected by atmospheric temperatures than gas turbines. This makes it possible to achieve greater advantage in actual operations and maintenance in comparison with gas turbines, including a gas turbine of similar output. MACH-30G can be one of the best solution for your gas-fuel power generation.



Products/Model :
MACH-30G Gas Engine

Eco-products No.0279

Machines and Equipments

Diesel Engine

Ecological Diesel Engine MARK-30B

Mitsubishi Heavy Industries, Ltd.

16-5 Konan 2-chome, Minato-ku, Tokyo 108-8215 Japan

Tel; 03-6716-3951 Fax; 03-6716-5779

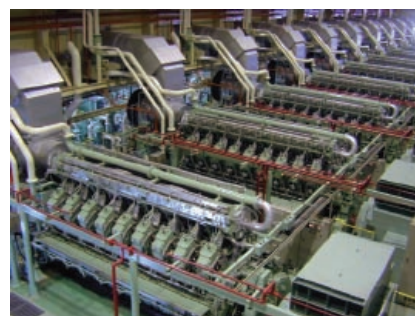
E-mail; san-ene-catalog-senyo@mhi.co.jp

URL; <http://www.mhi.co.jp>

Category:

- A1. Global Warming
- A2. Air Pollution
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

We have achieved an efficiency of 47.0% (=NOx level of less than 950ppm at O₂=13%, unsurpassed in diesel engines. Increased maximum pressure and fuel injection pressure of around 25%, optimization of the combustion cycle and improvement of intake exhaust efficiency provide the highest level efficiency in the world. High fuel injection pressure provides a low-smoke performance. (Less than Bosch 0.1).



Products/Model :

MACH-30B Diesel Engine

Eco-products No.0280

Machines and Equipments

Incinerator

"Hyper-21 Stoker System" Recycling-based incinerator for municipal waste treatment businesses

JFE Engineering Corporation

1-1-2, Marunouchi, Chiyoda-ku, Tokyo 100-0005, Japan

Tel; 03-3217-3912 Fax; 03-3214-9650

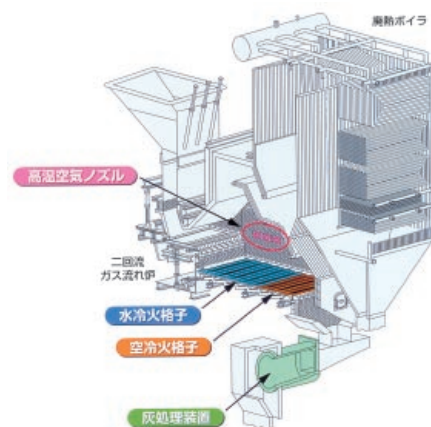
E-mail;

URL; <http://www.jfe-eng.co.jp/>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- A4. Waste
- B1. Recyclability
- B4. Higher Quality

"Hyper-21 Stoker System" increases power generation efficiency by 30%, (almost twice that of conventional generation system with combustion boiler.) It also achieves around 85% in the overall energy utilization rate by providing neighboring residences with heat generated during incineration.



Eco-products No.0281

Machines and Equipments

Carbonization Equipment

Scrap lumber carbonization system aimed at businesses generating wood waste

JFE Engineering Corporation

1-1-2, Marunouchi, Chiyoda-ku, Tokyo 100-0005, Japan

Tel; 03-3217-3912 Fax; 03-3214-9650

E-mail;

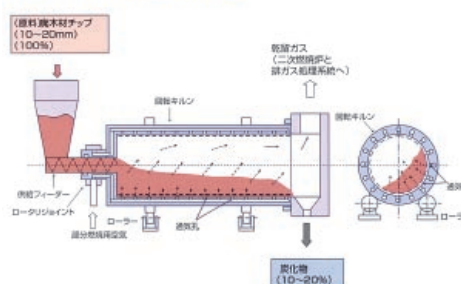
URL; <http://www.jfe-eng.co.jp/>

Category:

- A1. Global Warming
- A4. Waste
- B1. Recyclability
- B4. Higher Quality
- C6. End-of-Life

This system allows wood waste such as construction and demolition wood waste and separated bulky waste, to be reprocessed as carbide for reuse. Reprocessed carbide has a wide range of possible applications such as an alternative material to pulverized coal, fuel, or as an alternative absorbent to activated carbon. It is possible to manufacture versatile carbide with consistent quality because the carbonizing temperature can be set arbitrarily within a certain range. The emission of dioxin and toxic gases is very limited as carbonization gas is burnt at a high temperature.

通気回転式炭化炉の構造



Eco-products No.0282

Machines and Equipments

Dioxin Removal Equipment

“JFE Gas Clean DX” Dioxin Removal Equipment to reduce the environmental burden

JFE Engineering Corporation

1-1-2, Marunouchi, Chiyoda-ku, Tokyo 100-0005, Japan

Tel; 03-3217-3912 Fax; 03-3214-9650

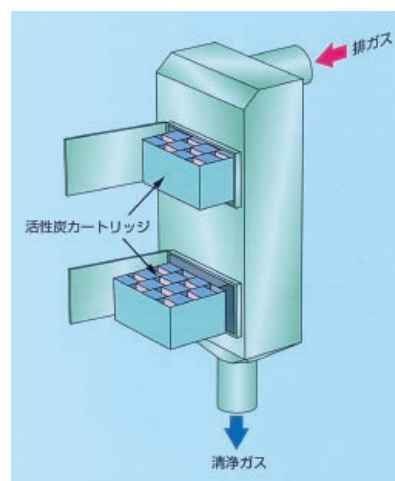
E-mail;

URL; <http://www.jfe-eng.co.jp/>

Category:

- A3. Hazardous Substance
- A4. Waste
- B4. Higher Quality
- B6. Environmental Purification
- C6. End-of-Life

“JFE Gas Clean DX” uses an activated carbon layer formed by particulate activated carbon with a high absorption capacity. When exhaust dioxin gas passes through this layer, the dioxin is absorbed by the particulate activated carbon. This method makes it possible to obtain dioxin concentration under 0.01ng-TEQ/ m³ and mercury concentration of 10 μg/ m³, that is not possible with the activated carbon spray method. By using a unique cartridge structure, exposure efficiency is improved, substantially reducing activated carbon. The space required to install this equipment is less than 1/5 of that for moving activated absorption equipment in the class.



Eco-products No.0283

Machines and Equipments

Mobile crusher

Mobile construction crusher for recycling and reutilization of waste

Komatsu Ltd.

2-3-6, Akatsuka, Minato-ku, Tokyo, 107-8414 Japan

Tel; 03-5561-2646 Fax; 03-3582-8332

E-mail; kankyo@komatsu.co.jp

URL; <http://www.komatsu.com/>

Category:

- A4. Waste
- B1. Recyclability
- C6. End-of-Life

This machine is used for field recycling and allows 'by-products' from a construction site to be processed on-site for recycling. The machine crushes natural stones and concrete blocks following demolition of concrete structures so that they can be re-used as crushed stones. Equipped with an impact crusher which crushes stones and concrete blocks by impact, BR480RG efficiently produces high-quality building materials.



Products/Model :
Mobile Crushers BR480RG

Eco-products No.0284

Machines and Equipments

Mobile Tub Grinders

Mobile Tub Grinders for land development/dam construction with high recyclability

Komatsu Ltd.

2-3-6, Akasaka, Minato-ku, Tokyo, 107-8414 Japan

Tel; 03-5561-2646 Fax; 03-3582-8332

E-mail; kankyo@komatsu.co.jp

URL; <http://www.komatsu.com/>

Category:

- A4. Waste
- B1. Recyclability
- C6. End-of-Life

This machine is used in land development/dam construction works to turn felled trees into wood chips on-site. It is equipped with a belt conveyor-type hopper making it suitable for crushing large trees.



Products/Model :
Mobile Wood Tub Grinders BR130M

Eco-products No.0285

Machines and Equipments

Steam Turbine

Steam turbine for power generation from waste incineration

Sumitomo Heavy Industries, Ltd.

5-9-11, Kitashinagawa, Shinagawa-ku, Tokyo 141-8686, Japan

Tel; 03-5488-8081 Fax; 03-5488-8085

E-mail;

URL; <http://www.shi.co.jp/>

Category:

- A1. Global Warming
- A4. Waste
- C1. Material Extraction
- B5. Energy Saving
- B7. Usage of Recycled Material

This steam turbine is used for generating electric power from waste incineration. In the field of biomass power generation, our company has experiences of using steam turbines in power generation plants that exploited bagass (sugar cane trush) and study the possible utilization of straw, chaff, wood chip. The steam turbine is also used in cogeneration plants due to its high efficiency to effectively utilize extra steam and low-pressure steam.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-products No.0286

Machines and Equipments

Crusher

Mobile Crusher for recycling construction waste

Sumitomo Heavy Industries, Ltd.

5-9-11, Kitashinagawa, Shinagawa-ku, Tokyo 141-8686, Japan

Tel; 03-5488-8081 Fax; 03-5488-8086

E-mail;

URL; <http://www.shi.co.jp/>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C1. Material Extraction
- C6. End-of-Life

This mobile crusher recycles constructive material waste (concrete and asphalt rubble), being in accordance with the Construction Material Recycling Act. Crushed rubble is reused as backfill of roadbed, which is well suited to the recycling-oriented society. Additionally, taking the environment of surrounding area into consideration, this crusher employed the roll crush method to diminish vibration, noise, and powder dust.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-products No.0287

Machines and Equipments

Plant

Mobile dioxin detoxification plant

Penta-Ocean Construction Co., Ltd.

2-2-8, Kouraku, Bunkyo-ku, Tokyo 112-8576, Japan

Tel; 03-3816-7111 Fax; 03-3816-7158

E-mail;

URL; http://www.st-egg.com/form_penta_ask/formmail.asp

Category:

● B6. Environmental Purification

This "Mobile Dioxin Detoxification Plant" can render soil contaminated with dioxin harmless at the contaminated site. It is applied to purifying works of soil contaminated with dioxin.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-products No.0288

Machines and Equipments

Water Clarification System

Bio Charco Clean: Solar power, biodegradability, reduction of water pollution

Tokico Ltd.

1-6-3, Fujimi, Kawasaki-ku, Kawasaki-shi, Kanagawa 210-0011, Japan

Tel; 044-244-3126 Fax; 044-244-7301

E-mail;

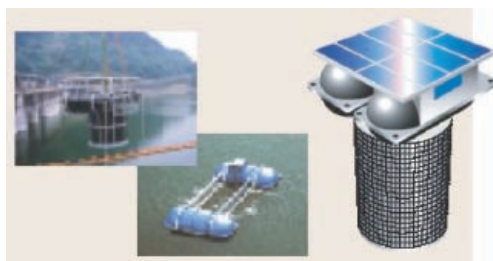
URL; <http://www.tokico-giken.co.jp/>

Category:

● B4. Higher Quality

● B6. Environmental Purification

In this water clarification system, a cartridge filled with charcoals is placed in water to collect water in a targeted body of water by an air lift pump and remove organic matters and nitrogen, contributors to water pollution with microorganisms attached to the surface of a charcoal. The system requires no power because power is generated from solar battery panels. In addition, the sharing of air sources for the pump and introduction of automatic backwash mechanism reduced a maintenance cost by 50%. The system reduces water pollution of lakes and mill ponds and contributes to improvement of water environment.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-products No.0289

Machines and Equipments

Radio-frequency generator

Radio-frequency generator (RF generator)

Shindengen Electric Manufacturing Co., Ltd.

10-13, Minami-cho, Hannou, Saitama 357-8585, Japan

Tel; 03-3279-4431 Fax; 03-3279-6478

E-mail;

URL; http://www.shindengen.co.jp/top_j/index.html

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

It is the high efficiency radio-frequency generator used for such as the semiconductor manufacturing equipment and the etching equipment. It have attained energy-saving and moreover, outfit of active filter on the side of alternating current input, permitting prevention of adverse effect on the quality of the commercial power supply side by minimizing reactive power and decrease of the running cost.



<13. 56MHz1kW RFジェネレータ>

※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-products No.0290

Machines and Equipments

Speaker

Lightweight automotive speaker with high sound quality

Alpine Electronics, Inc.

1-1-8 Nishi-Gotanda, Shinagawa-ku, Tokyo, 141-8501 Japan.

Tel; 03-3494-1101 Fax; 03-3494-1109

E-mail;

URL; <http://www.alpine.com>

Category:

- A1. Global Warming
- A2. Air Pollution
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This lightweight automobile speaker can impact favorably on fuel consumption.

It incorporates new technologies such as a new magnet system with high-density short voice coil and new cone with natural material etc and offers both higher quality sound and reduced weight.

By reducing the weight of our speaker products, we believe we can decrease vehicle fuel consumption.



Products/Model :
DDLinear Speaker

Eco-products No.0291

Machines and Equipments

Machine Tool (metal working)

High-speed tapping center for metal components in automobile manufacture

BROTHER INDUSTRIES, LTD.

15-1, naeshiro-cho, Mizuho-Ku, Nagoya 467-0841 Japan

Tel; 052-824-2072 Fax; 052-811-6826

E-mail; toshihiro.izuhara@brother.co.jp

URL; <http://www.brother.co.jp>

Category:

- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

We reduced electric power consumption per fabricated component by 15% (compared with our conventional products) by improving productivity with the development of a highly efficient spindle motor. We set a cutting oil pump and servomotor to automatically turn off during waiting time, reducing power consumption by 82% (compared with our conventional products). We have also reduced environmental impact by a variety of measures such as cutting down toxic materials by applying lead-free paint and introducing an automatic cleaning system to make filters maintenance-free.



Products/Model :
CNC Tapping Center TC-S2B

Eco-products No.0292

Machines and Equipments

Automatic clinical chemistry analyzer

Lightweight and resource-saving laboratory automatic analyzer

Hitachi High-Technologies Corporation

24-14, Nishi-Shimbashi 1-chome, Minato-ku, Tokyo 105-8717 Japan

Tel; 03-3504-7111 Fax; 03-3504-7123

E-mail; hht@nst.hitachi-hitec.com

URL; <http://www.hitachi-hitec.com/index.html>

Category:

- A5. Resource Consumption
- B2. Longevity
- B3. Resource Saving
- C5. Product Use, Maintenance and Repair

This analyzer has been designed to minimize environmental load and meets the Design for Environment Assessment System criteria established by the Hitachi group. Its weight has been reduced by using a small size and intelligent sample rack conveyor system. In addition, it uses less de-ionized water thanks to a non-contact ultrasonic mixing method.



Products/Model :
Automatic Clinical Chemistry Analyzer 9000

Eco-products No.0293

Machines and Equipments

Diesel Engine

Exhaust refreshing, low-noise, high-power Diesel Engine (for construction equipment)

Komatsu Ltd.

2-3-6, Akasaka, Minato-ku, Tokyo, 107-8414 Japan

Tel; 03-5561-2646 Fax; 03-3582-8332

E-mail; kankyo@komatsu.co.jp

URL; <http://www.komatsu.com/>

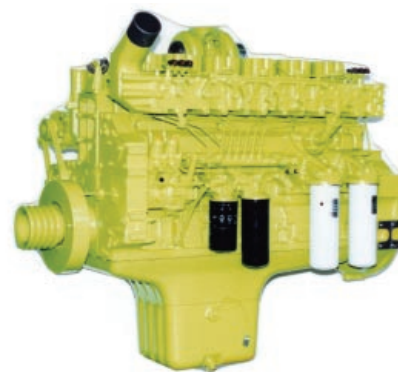
Category:

- A1. Global Warming
- A2. Air Pollution
- B5. Energy Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

Injecting fuel into the engine with high pressure allows it to mix well with air.

This is an effective means of reducing NOx in the exhaust from the engine and improves fuel efficiency at the same time. This common-rail fuel injection system is capable of maintaining its high-pressure injection performance even when the engine is running at low speeds. This is of special benefit for construction equipment where performance at low speeds is especially important.

The new fuel injection system installed in 6D140 series engines reduces NOx emissions by about 35% and improves fuel efficiency by more than 5%. In addition, it reduces noise levels by more than 2dB(A).



Products/Model :
Diesel Engine 6D140

Eco-products No.0294

Machines and Equipments

System Controller

Space-saving high-performance process controller DOPC

Advanced Automation Company, Yamatake Corporation

New Stage Yokohama Bldg, 1-1-32, Shin-urashima-cho, Kanagawa-ku, Yokohama, 221-0031 Japan

Tel; 045-461-8821 Fax; 045-461-8759

E-mail; ia-info@jp.yamatake.com

URL; <http://www.yamatake.com>

Category:

- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C3. Design and Material Selection
- C4. Product Manufacture

This product achieves 38% power saving and 30% weight reduction compared with previous models. Consequently, power supply units and storage cabinets can be reduced, realizing resource savings (energy and cabinet materials) and space saving (reduction of building material due to space saving for equipment). This product is best-suited to plant controls where energy saving is important, thereby reducing environmental effects.



Eco-products No.0295

Machines and Equipments

System Controller

Energy-saving electromagnetic flow meter “Magcube”

Advanced Automation Company, Yamatake Corporation

New Stage Yokohama Bldg, 1-1-32, Shin-urashima-cho, Kanagawa-ku,
Yokohama, 221-0031 Japan

Tel; 045-461-8821 Fax; 045-461-8759

E-mail; ia-info@jp.yamatake.com

URL; <http://www.yamatake.com>

Category:

- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C3. Design and Material Selection
- C4. Product Manufacture

The product consumes only one-fifth of the power of previous models by using polycarbonate and polypropylene for its case. Since electromagnetic meters do not have any parts, maintenance is simple. It is typically used to measure and control water flow rate, ensuring efficient use of water resources while reducing environmental effects.



Products/Model :
MCB10

Eco-products No.0296

Machines and Equipments

Oven

Energy-saving jet oven for the restaurant industry

Fujimak Corporation

5-14-5, Shinbashi, Minato-ku, Tokyo, 105-0004 Japan

Tel; 03-3434-2209 Fax;

E-mail;

URL; <http://www.fujimak.co.jp/>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This oven automatically senses whether cooking is under way based on a detection switch installed in the entrance of convair. When not in use, it stops convair, turning down the heat and cuts wasteful energy consumption. When food is placed on convair, it automatically switches back from energy-saving mode and cooking temperature is quickly restored.



Products/Model :
Energy-saving Jet-oven • FEJOA8TE

Eco-products No.0297

Machines and Equipments

Noodle Boiling Machine

Automatic jet stream noodle boiling machine

Nippon Senjoki K.K.

2-43-14, Unoki, Oota-ku, Tokyo, 146-0091 Japan

Tel; 03-3750-4451 Fax; 03-3750-4890

E-mail;

URL; <http://www.n-sen.com/>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

While a conventional machine stirs noodles in boiling water, this product keeps the water temperature at 96°C, just under boiling point, and stirs noodles by a jet stream generated by a jet stream motor. It also cuts down latent heat loss by using a steam shutter when idle. As a result, this product not only reduces energy consumption by 60% compared with conventional machines of equal capacity, but also improves conditions in the kitchen.



Products/Model :

Energy-saving Noodle boiling • UM731E

Eco-products No.0298

Machines and equipments

Communication Measuring Instrument

Compact and lightweight 5kg measuring instrument for network maintenance

Anritsu Corporation

1800 Onna, Atsugi-shi, Kanagawa, 243-8555 Japan

Tel; 046-223-1111 Fax;

E-mail;

URL; <http://www.anritsu.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

Portable instrument with compact and lightweight individual components.

By including only basic essential functions and a reduced number of module units, this model offers excellent power savings. Volume: reduced by 54% Mass: reduced by 54% Power consumption: reduced by 88%.



Products/Model :

IP Network Analyzer MD1231A

Eco-products No.0299

Machines and Equipments

Top runner energy-sparing transformer

High-Efficiency Oil-Filled transformer for industrial use

Mitsubishi Electric Corporation

2-2-3 Marunouchi, Chiyoda-ku, Tokyo, 100-8310 JAPAN

Tel; 03-3218-9024 Fax; 03-3218-2465

E-mail; eqd.eco@hq.melco.co.jp

URL; <http://www.MitsubishiElectric.co.jp/corporate/eco/index.html>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B1. Recyclability
- B3. Resource Saving
- B4. Higher Quality

"High-efficiency oil-filled transformer EX series", (which conforms to energy saving standard of 2006) contributes to energy saving, reducing 60% overall loss by using original reduced-loss design technologies. Since the reduced-loss allows cutback of radiation fins and realizes a major downsizing of the product, it requires 20% less installation space than standard products. Moreover, its iron cores, coils, and structural parts are made from recyclable materials to ensure effective use of resources. (Recycle ratio is 93%)



Products/Model :

High-Efficiency oil-Filled Transformer "EX series"

Eco-products No.0300

Machines and Equipments

Methane fermentation apparatus

Bison: Methane fermentation apparatus on site (for dairy cow, beef) Methane fermentation apparatus for individual farmhouse, whereby bio-gas including methane gas is acquired under anaerobic fermentation of livestock excreta.

Ebara Corporation

11-1 Haneda Asahi-cho, Ohta-ku, Tokyo 144-8510 Japan

Tel; 03-5461-5205 Fax; 03-5461-6006

E-mail; ueki.tsuneyuki@ebara.com

URL; <http://www.ebara.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

It can be installed in individual farmhouse, automatically operating to ferment methane from livestock excreta. The biomass-energy of livestock excreta is efficiently utilized to make it self-supporting type that covers power and heat required for fermentation process per se, allowing low-cost operation. It is administering to dairy farming environment as a methane fermentation apparatus with farmer's labor and economical burden controlled, reflecting the need for an appropriate utilization and treatment of livestock excreta.



Products/Model :

Bison

Eco-products No.0301

Machines and Equipments

Small water volume hydroponics

Eco-vegetable system: hydroponics-system utilizing property of functional culture medium, supplying crops with suitable amount of culture fluid according to growing stage by full automatic irrigation-control.

Ebara Corporation

11-1 Haneda Asahi-cho, Ohta-ku, Tokyo 144-8510 Japan

Tel; 03-5461-5205 Fax; 03-5461-6006

E-mail; ueki.tsuneyuki@ebara.com

URL; <http://www.ebara.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- B7. Usage of Recycled Material
- C1. Material Extraction

It is a cultivation system with designing to automatically control the amount of water and fertilizer. Compared to the conventional hydroponics cultivation, Ebara Corp. accomplished resource-saving and energy-saving of fertilizer and water by roughly 50%(Ebara figure). It is environment-friendly system which hardly generates waste and effluent.



Eco-products No.0302

Machines and Equipments

The construction of biomass town

Establishment of biomass town in Yamada-cho, Chiba prefecture: regional demonstrating study to develop the biomass-using plants belt. Implement under cooperation of industry, academy and bureaucracy

Ebara Corporation

11-1 Haneda Asahi-cho, Ohta-ku, Tokyo 144-8510 Japan

Tel; 03-5461-5205 Fax; 03-5461-6006

E-mail; ueki.tsuneyuki@ebara.com

URL; <http://www.ebara.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- B7. Usage of Recycled Material
- C1. Material Extraction

Ebara Corp. has designed materialization of regional circulating system through utilization of biomass by independent administrative agency, agricultural engineering laboratory in Yamada-cho, Chiba prefecture, joining the establishment of biomass-town whereat regional biomass is utilized in comprehensive and maximum fashion as a representative of biomass research and development association of participating agencies.



Eco-products No.0303

Machines and Equipments

Methane Fermentation Equipment

“JFE-Bigadan biogas system” Methane fermentation equipment for resource recycling

JFE Engineering Corporation

1-1-2, Marunouchi, Chiyoda-ku, Tokyo 100-0005, Japan

Tel; 03-3217-3912 Fax; 03-3214-9650

E-mail;

URL; <http://www.jfe-eng.co.jp/>

Category:

- A1. Global Warming
- A4. Waste
- B1. Recyclability
- B4. Higher Quality
- B5. Energy Saving

Digester gas generated from waste material via methane fermentation can be reused as electric power, hot water, and fuel. Excess energy such as electric power can be sold. Residual solid material remaining after methane fermentation can also be recycled to meet the demands of local residents. There are various options such as compost, dried sludge, recycled plastic fuel (RPF), and carbide.



Eco-products No.0304

Machines and Equipments

Reflow Oven

Reflow oven for surface mounting of electronic components

The Furukawa Electric Co., Ltd.

6-1, Marunouchi 2-chome, Chiyoda-ku, Tokyo, 100-8322 Japan

Tel; 03-3286-3495 Fax; 03-3286-3707

E-mail; hiroki@ho.furukawa.co.jp

URL; <http://www.furukawa.co.jp>

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B6. Environmental Purification
- C4. Product Manufacture

This reflow oven carries out the reflow soldering process during the mounting of electronic components in a nitrogen atmosphere. This eliminates the need to clean completed circuit boards and so avoids the use of CFCs.



Products/Model :

Nitrogen-Atmosphere Reflow Oven •
[SALAMANDER]

Eco-products No.0305

Machines and Equipments

Scrubber

High-efficiency dry scrubber for the semiconductor industry

Nippon Sanso Corporation

1-16-7, Nishi-Shinbashi, Minato, Tokyo, 105-8442 Japan

Tel; 03-3581-8200 Fax; 03-3580-9425

E-mail;

URL; <http://www.sanso.co.jp>

Category:

- A3. Hazardous Substance
- A4. Waste
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

Many specialty gases used in semiconductor production are dangerous due to their toxicity, causticity or combustibility and needed to be scrubbed when discharged to the atmosphere.

A typical method of scrubbing is dry scrubbing. GBIV, a scrubbing agent developed by our company and used in this equipment, has high reaction efficiency with hydride gases such as AsH₃ and PH₃ and can treat a larger volume of gases per unit, making it extremely cost-effective. In addition, the equipment was designed with considering safety. There is no risk of thermal runaway because exothermic temperature during reaction is low. This also allows you to see at a glance how far the reaction has proceeded because the scrubbing agent changes color in the process of reaction.



Products/Model :
VEGA®-Z

Eco-products No.0306

Machines and Equipments

Oil separating filter

Oil separating filter for vessel bilge water and parts cleaning process, which materialized to remove oil from oil-bearing watertion

ASAHI KASEI FIBERS CORPORATION

3-21-1, Nihonbashi Hama-cho, Chuo-ku, Tokyo, 03-8486 Japan

Tel; 03-5695-6730 Fax; 03-5695-6706

E-mail; tezuka,sb@om.asahi-kasei.co.jp

URL; <http://www.asahi-kasei.co.jp/eutec>

Category:

- A4. Waste
- B1. Recyclability
- C4. Product Manufacture

Oil droplets scattered in drainage washing and bilge water is aggrandized into 1-2mm by COALESCER filter, quickly collecting oil through gravity difference segregation in the container. The processed oil in washing is separated and collected in the manufacturing process of car, home electric appliances, office automation equipment and the like, thus extending the lifetime of washings and decreasing water exchange frequency so as to realize reduction of waste fluid. In the vessel application, it eliminates oil from bilge water, is used as a wastewater treatment appliance, and meets the regulation value of International Convention for the Prevention of Pollution from Ships.



Products/Model :
EUTEC, TH Series, EUS Series

Eco-products No.0307

Machines and Equipments

Electric Air Cleaner for Business Use

Energy-saving Green BIO · TOWER

Yamatake Corporation

1-12-2, Kawana, Fujisawa-shi, Kanagawa, 251-8522 Japan

Tel; 0466-20-2335 Fax; 0466-20-2193

E-mail; kajiwara-hiromichi@jp.yamatake.com

URL; <http://jp.yamatake.com>

Category:

- A4. Waste
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

This air cleaner doesn't contain substances that destroy the ozone layer or contaminate water and soil, and uses neither vinyl chloride as its main material nor foamed polystyrene for packaging. Instead, it uses a selection of eco-friendly materials, such as activated charcoal, which lowers the environmental load to 1/17 of our conventional products according to Life Cycle Assessment. We have also focused on saving resources. For example, the use of a body sensor reduces electric power consumption and it uses less materials for production (compared to conventional products).



Products/Model :
FNB780B201

Eco-products No.0308

Carriers / Automobiles

Biodegradable plastic

Biodegradable plastic: New plastic which reduces into soil after disposal

Ebara Corporation

11-1 Haneda Asahi-cho, Ohta-ku, Tokyo 144-8510 Japan

Tel; 03-5461-5205 Fax; 03-5461-6006

E-mail; ueki.tsuneyuki@ebara.com

URL; <http://www.ebara.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- B7. Usage of Recycled Material
- C1. Material Extraction

It is a substitute plastic manufacturing technology with the function of biodegradation. The purpose is conversion into high-value added functional material and utilization of food industry garbage. It has an effect of preservation of fossil-resource and reduction of gases with global warming effect.



生分解性プラスチック製品

Eco-products No.0309

Machines and Equipments

Pump and Controller

Hz free pump controller: Offers energy conservation and resource-savings

Ebara Corporation

11-1 Haneda Asahi-cho, Ohta-ku, Tokyo 144-8510 Japan

Tel; 03-3743-6135 Fax; 03-3743-6589

E-mail; sakane.shigeru@ebara.com

URL; <http://www.ebara.co.jp>

Category:

- B4. Higher Quality
- B5. Energy Saving
- C4. Product Manufacture
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

1. Energy-saving operation (Achieved an average 35% energy reduction with adjustable functions.)
2. Low maintenance (No maintenance provisions such as cooling fan due to water-cooling method using pumped liquid.)
3. Resource-saving
Minimum life cycle cost (total energy amount from production to dumping) necessary for fabricating products.



Products/Model :
EECFA52.2

Eco-products No.0310

Machines and Equipments

Heat Pump Type Vacuum Evaporator

Heat pump type vacuum evaporator for food/chemical factories (thickener)

Okawara MFG. CO., LTD.

1-6-3, Oh-i, Shinagawa-ku, 140-0014 Japan

Tel; 03-5743-7461 Fax; 03-5743-7460

E-mail; okw@po.ijinet.or.jp

URL; <http://www.okawara.co.jp>

Category:

- A1. Global Warming
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving
- C6. End-of-Life

This equipment heats, evaporates, and thickens waste using steam evaporated from waste fluid as a heat medium by means of electric heat pump technology, as opposed to the conventional method (thickening by boiler heat with heavy oil).

Only about 1/7th of the power consumed by the conventional method is required to concentrate waste fluid, and CO₂ emission is reduced approximate to a fifth of the original emission. These improvements drastically cut the cost of waste disposal. (In the case of waste fluid of about 2% concentration, its volume was reduced to 1/15th of its original volume.)



Eco-products No.0311

Machines and Equipments

Heat Pump Type Chiller

Heat pump type chiller for large-scale facilities

TOSHIBA CARRIER AIR CONDITIONING SYSTEMS CORPORATION

3-23-17, Shinagawa-Center Building, Takanawa, Minato-ku, Tokyo,
108-0074 Japan

Tel; 03-6409-1930 Fax; 03-5447-8145

E-mail; michiya.yano@glb.toshiba.co.jp

URL; <http://www.toshiba-carrier.co.jp/>

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- C3. Design and Material Selection
- C4. Product Manufacture

Reciprocating compressor (heat pump) using new refrigerant R407C (with zero ODP) is mounted in this chiller, allowing capacity control of compressors installed in modules according to loads and optimizing operation of each module. This allows a partial load operating efficiency, 4.8 in periodical coefficient of performance^{※1} to be obtained and energy consumption is reduced by 23% compared with conventional air-conditioning chiller^{※2}. Thus, our technology helps to reduce carbon dioxide emission and prevent global warming.

※1 Periodical coefficient of performance is a value of cooling operational efficiency with partial load added/50Hz (compliant with "ARI550/590-1998")

※2 comparison with our previous type R22 100 hp×4 units



Products/Model :

Flex Modular Chiller RUA-TP3001V-A/B

Eco-products No.0312

Machines and Equipments

Industrial-wastewater-recycle system using NF membrane

Wastewater recycle-system for private factories seeking decrease in operation costfactories seeking energy reclamation

Ebara Corporation

11-1 Haneda Asahi-cho, Ohta-ku, Tokyo 144-8510 Japan

Tel; 03-5783-8541 Fax; 03-5461-6011

E-mail; shima.kenji@ebara.com

URL; <http://www.ebara.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B3. Resource Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

This system clears the way for recycling of wastewater from factories like refreshing beverage manufacturing plant for cooling and other usage water in factory, following filtration by NF membrane. Water recycling permits reduction of environment burden such as reduction of industrial water quantity used, reduction of emissions of wastewater from factory. It also reduce environment burden from the viewpoint of resource consumption as it use no chemicals.



Products/Model :

Industrial wastewater recycle system using NF membrane

Eco-products No.0313

Machines and Equipments

Floating oil recovery equipment

Long-life floating oil recovery equipment for machining and general factories

Nippon Oil Corporation

3-12, Nishi Shimbashi 1-Chome, Minato-Ku, Tokyo, 105-8412 JAPAN

Tel; 03-3502-9176 Fax; 03-3502-9369

E-mail;

URL; <http://www.eneos.co.jp/>

Category:

- A4. Waste
- B2. Longevity
- B3. Resource Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

This product uses the Q-pot system to effectively recover surface oil. The Q-pots follow the fluctuation of liquid level to suck draw only the oil on the surface. Since coolant can be reused after separation from the oil with an oil-water separation system, it reduces the level of coolant in the waste liquid. In addition, coolant decomposition is inhibited by the constant recovery of floating oil, extending the life of the coolant.



Eco-products No.0314

Machines and Equipments

Sewage Treatment Equipment

“Bio-Tube” Advanced sewage treatment system using microorganism immobilization support

JFE Engineering Corporation

1-1-2, Marunouchi, Chiyoda-ku, Tokyo 100-0005, Japan

Tel; 03-3217-3912 Fax; 03-3214-9650

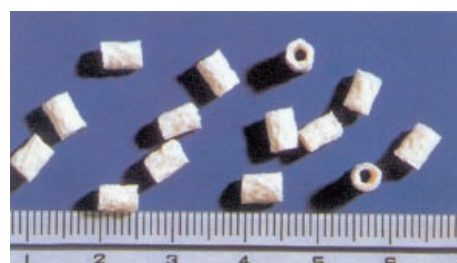
E-mail;

URL; <http://www.jfe-eng.co.jp/>

Category:

- A4. Waste
- B4. Higher Quality
- C6. End-of-Life

“Bio-Tube” technology using microorganism immobilization support by means of carriers makes it possible to immobilize microorganisms in high concentrations. It is a high efficiency, low cost, and space-saving advanced sewage treatment system.



Eco-products No.0315

Machines and Equipments

Water Treatment Equipment

“Romembra” Reverse Osmosis Membrane and seawater desalination plant system

Toray Industries, Inc.

Toray Bldg., 2-1, Nihonbashi-Muromachi 2-chome, Chuo-ku, Tokyo,
103-8666 Japan

Tel; 03-3245-5179 Fax; 03-3245-5459

E-mail;

URL; <http://www.toray.co.jp>

Category:

- A3. Hazardous Substance
- B3. Resource Saving
- B5. Energy Saving

Toray began reverse osmosis membrane R&D in 1968 and has applied the technology to desalination, wastewater treatment/recycling and the production of water for industry. Toray's seawater desalination technology using these membranes is highly advanced and the membranes have been used all over the world to conserve water resources. In 1997, in cooperation with Toray Engineering Co., Ltd., Toray Industries, Inc. developed a brine conversion two-stage reverse osmosis system which provides low cost energy conservation. The system has allowed Toray to further contribute to the development of water resources through seawater desalination.



Eco-products No.0316

Machines and Equipments

Lead-free plating machine for semiconductors

Environmentally-friendly lead-free plating machine for the lead frame of semiconductors

Fujiseiki Machine Works, Ltd.

840 Shimotogari, Nagaizumi-Cho, Sunto-Gun, Shizuoka-Pref., 411-8730
JAPAN

Tel; 055-988-1001 Fax; 055-988-1027

E-mail; fujiseiki@fj.toshiba-machine.co.jp

URL; <http://www.toshiba-machine.co.jp/fj/>

Category:

- A3. Hazardous Substance
- A4. Waste
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

Compared with traditional solder plating, lead-free plating requires higher “precision” for composition ratio. This requires precise management of the plating processing, plating solution, and processing software. This machine features constant jetting at plating processing tank as well as a power feeder for each work holder. As a result, it achieves high quality lead-free plating, through precise control of the electric current needed.



Products/Model :

Lead-Free Plating Machine • FSP-F series

Eco-products No.0317

Machines and Equipments

Wastewater Treatment Equipment

Alkaline wastewater neutralization equipment making use of fuel gas

AIR WATER INC.

20-16, Higashi-Shinsaibashi 1-chome, Chuo-ku, Osaka, 542-0083 Japan

Tel; 06-6252-5411 Fax; 06-6252-3965

E-mail;

URL; <http://www.awi.co.jp/>

Category:

- A4. Waste
- B3. Resource Saving
- B6. Environmental Purification
- C4. Product Manufacture

This equipment neutralizes alkaline wastewater discharged from a factory with CO₂ in the combustion exhaust gas discharged from the same factory. Using CO₂ in the combustion exhaust gas as a neutralizing agent instead of sulfuric acid, which was traditionally used, brought about the benefit of fixing CO₂, one of global warming substances.



Eco-products No.0318

Machines and equipments

Check Weigher

High-speed, high-precision checkweigher using a newly-developed electromagnetic balance scale

Anritsu Industrial Solutions Co., Ltd.

1800 Onna, Atsugi-shi, Kanagawa, 243-8555 Japan

Tel; 046-296-6700 Fax; 046-296-6779

E-mail;

URL; <http://www.anritsu.co.jp/J/Industry/>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

Equipped with a conveyor motor under high-efficiency DC power control, this model saves power. Power consumption is reduced by 32% compared with our conventional type.



Products/Model :

Checkweigher KW6412BF12/BP12

Eco-products No.0319

Machines and Equipments

Excess-Sludge Reduction System

Excess Sludge Reduction System for Sludge Decomposition and Waste Reduction

Cosmo Engineering Co., Ltd.

2-5-8 Higashi-shinagawa Shinagawa-ku, Tokyo, 140-0002 Japan

Tel; 03-5462-0150 Fax; 03-5462-0159

E-mail;

URL; <http://www.cosmoeng.co.jp>

Category:

- A4. Waste
- B6. Environmental Purification
- C2. Material and Components Production
- C4. Product Manufacture

This system destroys a firm cell of micro-organism contained in excessive sludge and transforms the cell to a form that can be decomposed by the micro-organism itself. As the result, the sludge is decomposed for the micro-organism's food and reduced to about a tenth of its initial volume, which enables reduction of industrial waste.



Eco-products No.0320

Machines and Equipments

Hydrocarbon Vapor Recovery Unit

Hydrocarbon Vapor Recovery Unit for Protection of VOC Emission to Air

Cosmo Engineering Co., Ltd.

2-5-8 Higashi-shinagawa Shinagawa-ku, Tokyo, 140-0002 Japan

Tel; 03-5462-0150 Fax; 03-5462-0159

E-mail;

URL; <http://www.cosmoeng.co.jp>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- A5. Resource Consumption
- B6. Environmental Purification
- C4. Product Manufacture

The hydrocarbon vapor recovery unit was developed to collect various hydrocarbon vapors emitted by chemical plants. For vapor recovery, an absorbent-based PSA method is used.



Eco-products No.0321

Machines and Equipments

Freezing/refrigerating/air-conditioning system

Freezing/refrigerating/air-conditioning system featuring 50% power reduction

DAIKIN INDUSTRIES, LTD.

Umeda Center Bldg., 2-4-12, Nakazaki-Nishi, Kita-ku, Osaka,
530-8323, Japan

Tel; 06-6374-9304 Fax; 06-6373-4380

E-mail; kankyo@daikin.co.jp

URL; <http://www.daikin.co.jp/kankyo/>

Category:

- B3. Resource Saving
- B5. Energy Saving

This system achieves an energy reduction for convenience stores by integrating the freezer and refrigeration showcases with an air-conditioning system. It achieves a 50% reduction in annual energy consumption compared with existing systems by using exhausted heat from freezing or refrigerating in winter. Additionally, combining freezing, refrigerating, and air-conditioning into one system provides resource-savings.

CONVENI-PAC

Refrigeration/freezing/
two air-conditioners



Typical system



Products/Model :
CONVENI-PACK

Eco-products No.0322

Machines and Equipments

High Load Type EGSB (Expanded Granular Sludge Bed) Technology

Organic wastewater treatment technology for private factories seeking energy reclamation

Ebara Corporation

11-1 Haneda Asahi-cho, Ohta-ku, Tokyo 144-8510 Japan

Tel; 03-5783-8541 Fax; 03-5461-6011

E-mail; shima.kenji@ebara.com

URL; <http://www.ebara.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B5. Energy Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

Organic wastewater from brewery and soft drink-manufacturing factory is purified through anaerobic treatment in this system. In addition, it permits reclamation of methane gas from wastewater. Compared to UASB(Upflow Anearobic Sludge Blanket) method, the conventional representative technology of anaerobic treatment, the treatment performance of this system is enhanced up to as 2-3 times high as that of the method, resulting in space-saving and tremendous decrease in operating cost. Moreover, energy recovery such as heat recovery or power generation comes possible, by recovered methane gas.



Products/Model :
High Load Type EGSB

Eco-products No.0323

Machines and Equipments

Incinerator

Eco-friendly Incinerator: Energy-saving waste treatment plant

Ebara Corporation

11-1 Haneda Asahi-cho, Ohta-ku, Tokyo 144-8510 Japan

Tel; 03-3743-6135 Fax; 03-3743-6589

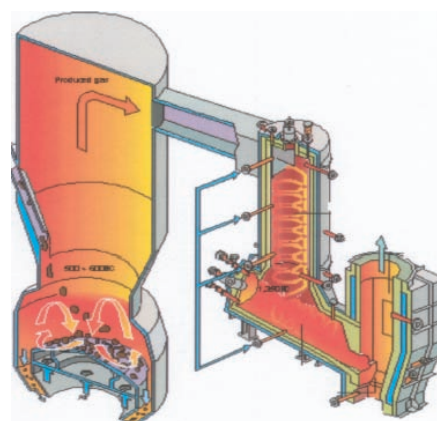
E-mail; sakane.shigeru@ebara.com

URL; <http://www.ebara.co.jp>

Category:

- A2. Air Pollution
- A4. Waste
- B1. Recyclability
- B5. Energy Saving
- C6. End-of-Life

The incinerator recycles collected metals and produces ash slag with heat created by the refuse itself. Waste put into a gasification furnace is gasified and burned at high temperature to decompose dioxin. In addition, since no fossil fuels are used for combustion it prevents global warming and reduces CO₂. Residues and slag can be reused for road asphalt, reducing the amount of waste going to a final disposal site. Its low power consumption ensures high-efficiency waste power generation, and waste heat can be used for local community facilities.



Eco-products No.0324

Machines and Equipments

Scanning electron microscope

Energy and space-saving electron microscope for business and research laboratories

Hitachi High-Technologies Corporation

24-14, Nishi-Shimbashi 1-chome, Minato-ku, Tokyo 105-8717 Japan

Tel; 03-3504-7111 Fax; 03-3504-7123

E-mail; hht@nst.hitachi-hitec.com

URL; <http://www.hitachi-hitec.com/index.html>

Category:

- A1. Global Warming
- B2. Longevity
- B5. Energy Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

This microscope is designed to minimize environmental impact and meets the Design for Environment Assessment System criteria established by the Hitachi group. Power consumption has been reduced by using one pump rather than two, and the inclusion of an eco-mode function. The unit's layout has been improved to achieve a reduction in size. This microscope is an important tool in environmental conservation research.



Products/Model :

Field Emission Scanning Electron Microscope S-4800

Eco-products No.0325

Machines and Equipments

Electric tool

Improved speed eco-friendly cordless bolting tool that minimizes use of toxic substances

Hitachi Koki Co., Ltd.

Shinagawa Intercity Tower A 15-1, Konan 2-chome, Minato-ku, Tokyo,
108-6020 Japan

Tel; 03-5783-0601 Fax; 03-5783-0709

E-mail; webmaster@hitachi-koki.co.jp

URL; http://www.hitachi-koki.com

Category:

- A1. Global Warming
- A5. Resource Consumption
- B1. Recyclability
- B6. Environmental Purification
- C6. End-of-Life

- ① It bound tight with tightening torque, 20% faster and used less power than previous model.
- ② It features an environmentally-friendly nickel hydride battery.
- ③ Packaging has abolished to save resources.



Products/Model :
Cordless Impact Driver WH 12DM2

Eco-products No.0326

Machines and Equipments

Electric tool

Energy-saving eco-friendly drill

Hitachi Koki Co., Ltd.

Shinagawa Intercity Tower A 15-1, Konan 2-chome, Minato-ku, Tokyo,
108-6020 Japan

Tel; 03-5783-0601 Fax; 03-5783-0709

E-mail; webmaster@hitachi-koki.co.jp

URL; http://www.hitachi-koki.com

Category:

- A1. Global Warming
- A5. Resource Consumption
- B1. Recyclability
- B2. Longevity
- C6. End-of-Life

1. Striking energy was raised by 39% and energy efficiency improved by 53% based on our previous model.
2. Motor features a tough aluminum body for durability and a 30% longer life than previous model.



Products/Model :
Hammer H 45MR

Eco-products No.0327

Machines and Equipments

Air tool

Eco-friendly high-efficiency air tool

Hitachi Koki Co., Ltd.

Shinagawa Intercity Tower A 15-1, Konan 2-chome, Minato-ku, Tokyo,
108-6020 Japan

Tel; 03-5783-0601 Fax; 03-5783-0709

E-mail; webmaster@hitachi-koki.co.jp

URL; <http://www.hitachi-koki.com>

Category:

- A5. Resource Consumption
- B1. Recyclability
- B6. Environmental Purification
- C1. Material Extraction
- C6. End-of-Life

1. Product weight has been reduced by 27% based on high-pressure air use.
2. Exhaust muffler has reduced noise by 8dB compared with previous model.



Products/Model :
Nailer NV 90H

Eco-products No.0328

Machines and Equipments

Air Conditioning Equipment

Energy-saving Air Conditioning System Using Hydrate Slurry

JFE Engineering Corporation

1-1-2, Marunouchi, Chiyoda-ku, Tokyo 100-0005, Japan

Tel; 03-3217-3912 Fax; 03-3214-9650

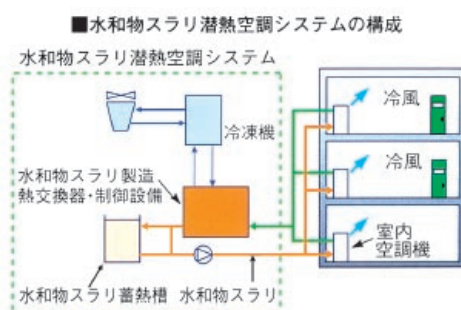
E-mail;

URL; <http://www.jfe-eng.co.jp/>

Category:

- A1. Global Warming
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

1. Heat density of clathrate hydrate slurry is almost twice that of cold water (temperature difference: about 7°C), enabling power for heat transfer to be decreased to 1/5th of that for cold water.
2. Mobile power for freezing is reduced to about 60% compared with the manufacture of ice because manufacturing temperature of clathrate hydrate slurry is in the range between 5°C and 12°C. It is equal to cold water temperature.



Eco-products No.0329

Machines and Equipments

Photoelectric smoke detector

Resource-saving Photoelectric smoke detector for automatic fire alarm system

Matsushita Electric Works, Ltd. Information Equipment & Wiring Products Co.

1048, Kadoma, Osaka, 571-8686 Japan

Tel; 06-6909-0873 Fax; 06-6904-4225

E-mail;

URL; <http://www.mew.co.jp>

Category:

- A3. Hazardous Substance
- A5. Resource Consumption
- B3. Resource Saving
- C3. Design and Material Selection
- C6. End-of-Life

The product has been significantly downsized as a result of its parts design, high density mounting and photoelectric microminiaturization, which provide resource savings of printed-board and plastic parts. The product is eco-friendly thanks to its lead-free soldering.



Products/Model :
Cyber sensor BVR46898 etc

Eco-products No.0330

Machines and Equipments

Energy measuring unit

Eco-friendly accurate Energy measuring unit

Mitsubishi Electric Corporation

2-2-3 Marunouchi, Chiyoda-ku, Tokyo, 100-8310 JAPAN

Tel; 03-3218-9024 Fax; 03-3218-2465

E-mail; eqd.eco@hq.melco.co.jp

URL; <http://www.MitsubishiElectric.co.jp/corporate/eco/index.html>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving

"EcoMonitor" accurately measures the electric power consumption of each facility or production line in factories or buildings. By collecting and analyzing measured data, it pinpoints the energy consumption required to produce one product in a specific process - as well as the cause of wasteful stand-by power. This equipment identifies points where further energy savings are possible, helping users to save energy. Furthermore, it contributes to the reduction of environmental impact through its compact size, low resource consumption, module structure, and low power consumption.



三菱エネルギー計測ユニット EcoMonitorPro

Products/Model :
Energy Measuring Unit "EcoMonitorPro"
EMU2-RD3-C

Eco-products No.0331

Machines and Equipments

Heat Pump Type Chiller

Air-conditioning heat pump type chiller using HFC refrigerant "R134a"

MITSUBISHI HEAVY INDUSTRIES, LTD.

16-5, Konan 2-chome, Minato-ku, Tokyo, 108-8215 Japan

Tel; 03-6716-4288 Fax; 03-6716-5855

E-mail;

URL; www.mhi.co.jp

Category:

- A1. Global Warming
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

- Achievement of COP 5.0/4.0 (cooling /heating) by means of heat pump technology
- Features an ultra-small turbo compressor
- Dramatic enhancement of part load performance and efficiency ranging over the whole range of outside air temperatures due to the control of rotation number by the latest high speed motor and inverter
- Use of HFC (hydrofluorocarbon) refrigerant "R134 a" of which ODP (ozone-depleting potential) is zero
- Considerable reduction in maintenance cost due to the high durability bearing of which lifetime is 200,000 hours
- A reduction of around 30% in running costs compared with conventional equipment made by Mitsubishi Heavy Industries, Ltd.



Products/Model :
microTURBO S series MTS175

Eco-products No.0332

Machines and Equipments

Centrifugal Chiller

Centrifugal Chiller that achieves the highest efficiency level in the world

MITSUBISHI HEAVY INDUSTRIES, LTD.

16-5 Konan 2-chome, Minato-ku, Tokyo 108-8215 Japan

Tel; 03-6716-3111 Fax; 03-6716-5800

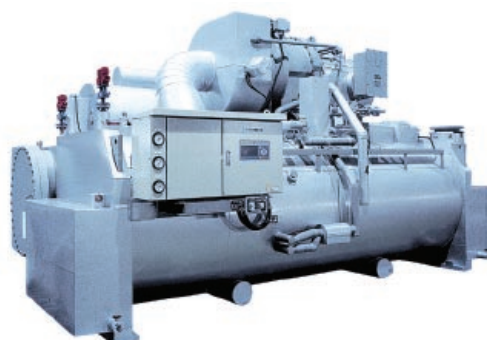
E-mail;

URL; http://www.mhi.co.jp

Category:

- A1. Global Warming
- A3. Hazardous Substance
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

Mitsubishi Heavy Industries' centrifugal chiller using HFC-134a refrigerant with zero ozone depletion potential succeeded in achieving the world's highest COP and reducing environmental impact burden. The "AART" series achieved the a world record 6.4 COP at full load, along with and the "NART" series that also achieved the a world record 17.8 COP at partial load by applying inverter control. Consequently, these chillers contribute to the prevention of global warming by cutting more CO₂ emission than conventional chillers.



Products/Model :
CENTRIFUGAL CHILLER AART, NART-I, NART

Eco-products No.0333

Machines and Equipments

Defoaming equipment

Factory defoaming equipment

Nippon Oil Corporation

3-12, Nishi Shimbashi 1-Chome, Minato-Ku, Tokyo, 105-8412 JAPAN

Tel; 03-3502-9176 Fax; 03-3502-9369

E-mail;

URL; <http://www.eneos.co.jp/>

Category:

- A4. Waste
- B3. Resource Saving
- B4. Higher Quality
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

The equipment quickly eliminates bubbles on the surface of the liquid to prevent bubbles overflowing, improving working conditions. Its simple structure does not require consumables or defoaming agent, so it contributes to cost reduction and reduces waste fluid.



Eco-products No.0334

Machines and Equipments

Far infrared ray heater

Environmentally-friendly far infrared heater for large areas

Nippon Oil Corporation

3-12, Nishi Shimbashi 1-Chome, Minato-Ku, Tokyo, 105-8412 JAPAN

Tel; 03-3502-9176 Fax; 03-3502-9369

E-mail;

URL; <http://www.eneos.co.jp/>

Category:

- A1. Global Warming
- A2. Air Pollution
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

By using a multi-step combustion system (three steps) based on catalytic combustion, which allows low temperature/low oxygen combustion, this infrared heater system for large spaces achieves high efficiency and clean exhaust gas with little emission of CO₂ and NO_x.



Eco-products No.0335

Machines and Equipments

Air Separation Plant

High performance tonnage air separation plant

Nippon Sanso Corporation

1-16-7, Nishi-Shinbashi, Minato, Tokyo, 105-8442 Japan

Tel; 03-3581-8200 Fax; 03-3580-9425

E-mail;

URL; <http://www.sanso.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The air separation plant produces oxygen and nitrogen by separating air at cryogenic temperature. Our latest tonnage air separation plant offers 15% less power consumption than our previous models by means of employing.

- (1) a high performance air compressor.
- (2) packed columns which reduce the pressure losses of the columns down to 30% of traditional sieve tray columns and outlet pressure of air compressor.
- (3) a falling film condenser which also reduces outlet pressure of air compressor.



Products/Model :
Air separation plant

Eco-products No.0336

Machines and Equipments

Nitrogen Generator

Energy-saving nitrogen generator with a non-freon process

Nippon Sanso Corporation

1-16-7, Nishi-Shinbashi, Minato, Tokyo, 105-8442 Japan

Tel; 03-3581-8200 Fax; 03-3580-9425

E-mail;

URL; <http://www.sanso.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The generator provides nitrogen in places where there is a high demand for nitrogen gas. It uses a non-freon process which does not require the freon refrigerator necessary in a traditional production process. The JN type offers low noise level as standard. The MG type is a high efficiency device, which increases nitrogen yield by improving the production process. It also realize to reduce power consumption 20% less than our previous models.



Products/Model :
Nitrogen generator(JN type, MG type)

Eco-products No.0337

Machines and Equipments

Steel-pipe power pole (eco-steel-pipe pole)

Steel-pipe power pole (eco-steel-pipe pole) with PET-powder-coat for underground sections - offers excellent anti-corrosion properties and meets the Environmental 3R's

NIPPON TELEGRAPH AND TELEPHONE WEST CORPORATION

3-15, Banba-cho, Chuo-ku, Osaka-shi, Osaka, 540-8511 Japan

Tel; 06-4793-3761 Fax; 06-4793-4855

E-mail;

URL;

Category:

- A3. Hazardous Substance
- B1. Recyclability
- B2. Longevity
- B7. Usage of Recycled Material

The use of a tough coating with anti-corrosion properties satisfies the following targets:

- Reduce: Required natural resources reduce owing to longer life of products.
- Reuse: Once dismantled the steel pipe pole can be reused due to its toughness and longevity. Recycle: Steel pipe pole is made of steel, and is suitable for recycling at disposal. Recycled materials such as PET bottles are used in the raw material of PET-powder-coat.
- Others: Harmful organic solvent is not used at all in the process of powder coating.



Eco-products No.0338

Machines and Equipments

Heat Pump type Water Heater

Heat pump type water heater using CO₂ as natural refrigerant

Nishiyodo Corporation

1-1, Iwataminamino, Yawata-city, Kyoto, 614-8264 Japan

Tel; 075-983-9451 Fax; 075-983-0130

E-mail; m.ogata@nishiyodo.co.jp

URL; <http://www.nishiyodo.co.jp/>

Category:

- A1. Global Warming
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This heat pump type water heater uses CO₂ as a natural refrigerant, which has the value of zero and one (1/1700 of fluorocarbon refrigerant's GWP) for ODP and GWP, respectively. The coefficient of performance (COP) of this equipment exceeds 3.0.

Considering that power generation efficiency averaged over thermal power plants is 35%, consumed energy and discharged CO₂ in operation is reduced by approximately 30% compared with a combustion type water heater.



Eco-products No.0339

Machines and Equipments

Grinding Swarf Briquetting Equipment

Grinding Swarf Briquetting Equipment

NTN Corporation

1-3-17 Kyomachibori, Nishi-ku, Osaka, 550-0003 Japan

Tel; 06-6443-5001 Fax;

E-mail;

URL; <http://www.ntn.co.jp/>

Category:

- A4. Waste
- B3. Resource Saving
- C6. End-of-Life

This system can compress sludge generated in the grinding process, separate solids from liquid, recycle its metal element to steel making materials and reuse filtered grinding fluid. The equipment (1/3rd smaller than conventional products) has equipment characteristics such as elimination of binder and other additives for solidification of oil-based grinding sludge. The system reduces waste treatment cost.



Products/Model :
Grinding swarf briquetting equipment

Eco-products No.0340

Machines and Equipments

Die casting machine

Metal casting system for manufacturers considering environment and safety

Toshiba Machine Co., Ltd.

2068-3 Ooka, Numazu-Shi, Shizuoka-Ken, 410-8510 Japan

Tel; 055-926-5141 Fax; 055-925-6501

E-mail;

URL; <http://www.toshiba-machine.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B1. Recyclability
- B5. Energy Saving
- C4. Product Manufacture

This metal casting system is designed mainly to cope with magnesium as well as aluminum and zinc. Using the conventional system, large amounts of material are melted in advance even if only a small amount is required for casting. However this system allows you to melt only the required amount of material and, since materials do not need to be maintained at high temperature for prolonged periods, heat emission is small. This system also eliminates global warming gas (sulfur hexafluoride). With no mass melting operation involved, factory safety can be improved, contributing to a better operational environment.



Eco-products No.0341

Machines and Equipments

Flue Gas Denitrification Equipment

Flue gas denitrification equipment decomposing nitrogen oxide to nitrogen and vapor

KAWASAKI HEAVY INDUSTRIES, LTD.

World Trade Center Building, 4-1 Hamamatsu-cho
2-chome, Minato-ku, Tokyo, 105-6116 Japan
Tel; 03-3435-2409 Fax; 03-3436-3039
E-mail; kita_m@khi.co.jp
URL; <http://www.khi.co.jp/>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- B4. Higher Quality
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

This equipment employed dry processing method with which nitrogen oxide in the fuel gas is decomposed to nitrogen and vapor by exposing fuel gas mixed with ammonia to solid catalyst. It can be applied to a variety of combustion equipment such as boilers and gas turbines, achieved high efficiency with simple configuration of devices. It also has a simultaneous dioxin decomposing function. By selecting optimum catalyst and operating temperature area and ammonia injection control system, high efficiency and high durability and high following characteristic for operation fluctuation are demonstrated in wide NOx generation resource field. And, it is also useful for the reduction of the dioxins for the refuse incinerator.



Products/Model :

Kawasaki Catalytic NOx Reduction System

Eco-products No.0342

Machines and Equipments

Flue-gas denitrification equipment

Air pollution prevention systems (Denitrification: DeNOx)

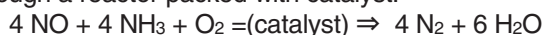
Ishikawajima-Harima Heavy Industries Co., Ltd.

Shin-Ohtemachi Bldg., 2-1, Ohtemachi 2-chome, Chiyoda-ku Tokyo
100-8182 Japan
Tel; 03-3244-5111 Fax; 03-3244-5131
E-mail; Webmaster@ihi.co.jp
URL; <http://www.ihi.co.jp/>

Category:

- A2. Air Pollution
- A5. Resource Consumption
- B6. Environmental Purification
- C4. Product Manufacture

IHI-made flue-gas DeNOx system utilizes the SCR system (SCR: Selective Catalytic Reduction). The principle of the reduction method is to decompose nitrogen oxides into nitrogen and water vapor by adding ammonia to flue gas (stack gas) and then passing the gas through a reactor packed with catalyst.



In 1978, IHI delivered a DeNOx system adopting this method, into its first practical application in the world, applied for sources, emitting large amount of flue gas.



Products/Model :

Orchid Base

Eco-products No.0343

Machines and Equipments

Flue-gas desulfurization equipment

Air pollution prevention systems (Desulfurization: DeSO_x)

Ishikawajima-Harima Heavy Industries Co., Ltd.

Shin-Ohtemachi Bldg., 2-1, Ohtemachi 2-chome, Chiyoda-ku Tokyo
100-8182 Japan

Tel; 03-3244-5111 Fax; 03-3244-5131

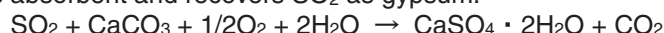
E-mail; Webmaster@ihi.co.jp

URL; <http://www.ihi.co.jp/>

Category:

- A2. Air Pollution
- A5. Resource Consumption
- B6. Environmental Purification
- C4. Product Manufacture

Sulfur dioxide in the flue gas of boiler is removed by the gas-liquid reaction between the flue gas and the absorbent solution. Various processes are available depending on the kind of absorbent. Limestone-gypsum process uses the limestone slurry as absorbent and recovers SO₂ as gypsum.



IHI has rich experience on many FGD(Flue Gas Desulfurization) processes, such as magnesium process, ammonia process, caustic soda process, sea-water process, as well as limestone-gypsum process.



Products/Model :
Orchid Base

Eco-products No.0344

Machines and Equipment

Gas Chromatograph

"GC-2014", energy-saving type high-performance Gas Chromatograph

Shimadzu Corporation

1, Nishinokyo-Kuwabara-cho, Nakagyo-ku, Kyoto 604-8511 Japan

Tel; 075-823-1113 Fax; 075-823-2062

E-mail; kksitu@group.shimadzu.co.jp

URL; <http://www.shimadzu.co.jp>

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

"GC-2014" is a gas chromatograph considering high performance and environmental loading. By the following improvement: (a) use of a transformer-less switching power supply, (b) miniaturization of parts by using high performance, high-density integrated circuit, and (c) decrease in the number of parts, the energy consumption in the stand-by condition reduced by 68% of that for the previous-type apparatus.



Products/Model :
Gas Chromatograph GC-2014

Eco-products No.0345

Machines and Equipments

Filter cleaning system

Automatic cleaning system for air filter by ultrasonic waves

KAWASAKI HEAVY INDUSTRIES, LTD.

1-1, Higashikawasaki-cho, 3-chome, Chuo-ku, Kobe 650-8670 Japan

Tel; 078-682-5476 Fax; 078-682-5568

E-mail; kpme@corp.khi.co.jp

URL; <http://www.khi.co.jp/>

Category:

- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- B3. Resource Saving
- C5. Product Use, Maintenance and Repair

Kawasaki Ultrasonic filter Cleaning System(KUCS) is an automatic cleaning device for air filter, which utilizes impulse force generated by cavitations of ultrasonic waves.

Kawasaki KUCS makes it possible to re-use air filter for several times by means of ultrasonic waves-cleaning without damage of filter media. That means (1) Reduce of waste by Recycling of Filter Material, (2) Reuse of Natural Resources, (3) Reduce of Maintenance Cost.



Eco-products No.0346

Machines and Equipments

Marine Diesel Engine

Large-scale and environment-friendly marine two-stroke diesel engine with economical efficiency

KAWASAKI HEAVY INDUSTRIES, LTD.

1-1, Higashikawasaki-cho, 3-chome, Chuo-ku, Kobe, 650-8670 Japan

Tel; 078-682-5340 Fax; 078-682-5558

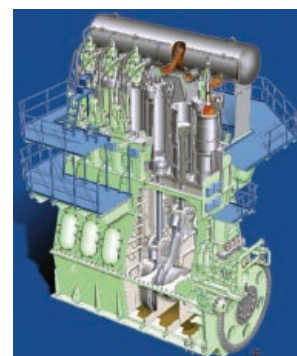
E-mail; yoshida_taka@khi.co.jp

URL; <http://www.khi.co.jp/>

Category:

- A1. Global Warming
- A2. Air Pollution
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This next generation computerized diesel engine enabled flexible control according to the situation by changing the control method of fuel injection, opening and closing of exhaust valve, and cylinder lubricating oil injection from conventional mechanical control to electronic control. This reduced NOX emission discharged during a sailing in port area as well as fuel consumption and CO₂ emission during an ocean voyage. Besides, it enabled to cut down on oil consumption and control the emission of particulate matter.



Products/Model :

KAWASAKI-MAN B&W ME/ME-C

Eco-products No.0347

Machines and Equipments

Beach Cleaner

Beach cleaner with the function of separating sand and trash

KAWASAKI HEAVY INDUSTRIES, LTD.

World Trade Center Building, 4-1 Hamamatsu-cho 2-chome,
Minato-ku, Tokyo, 105-6116 Japan
Tel; 03-3435-6959 Fax; 03-3435-3480
E-mail;
URL; <http://www.khi.co.jp/>

Category:

- A1. Global Warming
- A2. Air Pollution
- B4. Higher Quality
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

You can see that beach is usually cleaned by people of local municipalities and citizen's group, but it is not enough to collect rapidly increasing and diversifying trash. Today, more local governments have introduced beach cleaners to make cleaning work more automatically and efficiently. Our "Beach Cleaner KBC12A" facilitated gathering trash by employing the unique device, rotor and multi-screen, which easily separates trash from sand, removing all sorts of trash ranging from cans and bottles to cigarette butts and shell from the beach. On top of that, it made it possible to recover breakable bottles and other dangerous stuff without breaking.



Products/Model :
Beach Cleaner • KBC12A

Eco-products No.0348

Machines and Equipments

CCPP using blast furnace gas

High efficiency cogeneration facility using blast furnace gas

KAWASAKI HEAVY INDUSTRIES, LTD.

1-1, Higashikawasaki-cho, 3-chome, Chuo-ku, Kobe 650-8670 Japan
Tel; 078-682-5262 Fax; 078-682-5576
E-mail; shobayashi_j@khi.co.jp
URL; <http://www.khi.co.jp/>

Category:

- A1. Global Warming
- A2. Air Pollution
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The blast furnace gas had not been able to use exclusively for turbine fuel because the gas, which is the by-product gas in ironworks, has low calorific power. However, single-fuel combustion is realized by using silo combustor and maintaining flame retention time longer. High efficiency cogeneration as well as the reduction of fossil fuel consumption and CO₂ emission can be realized by consisting the combined cycle which has this gas turbine as the main machine. In addition, thermal NO_x emission is also reduced because flame temperature in the single-fuel combustion of the blast furnace gas is lower than common fuel.



Products/Model :
KA11N2-LBTU

Eco-products No.0349

Machines and Equipment

Magnetically levitated turbo-molecular pump

"EI-D Series" energy-saving type power supply unit

Shimadzu Corporation

1, Nishinokyo-Kuwabara-cho, Nakagyo-ku, Kyoto 604-8511 Japan

Tel; 075-823-1113 Fax; 075-823-2062

E-mail; kksitu@group.shimadzu.co.jp

URL; <http://www.shimadzu.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

Turbo-molecular pump is vacuum pump which makes up clean ultra-high vacuum by carrying out the molecular-level exhaust by means of high-speed rotation of turbine blade. The new-model power supply unit (EI-D Series) achieved its weight reduction with the help of a new control circuit which comprises DSP(Digital Signal Processor) and HIC(Hybrid IC) and of the high-density packaging technology. In comparison with our previous-model product, the volume and the weight reduced by 50%, respectively. The maximum power consumption also reduced by 30% by installing the new-model power supply unit.



Products/Model :

EI-D Series magnetically levitated turbo-molecular pump power supply

Eco-products No.0350

Machines and Equipments

Fluidized Bed Cement Kiln System

Energy-saving and environment-friendly fluidized bed advanced cement kiln system (FAKS)

KAWASAKI HEAVY INDUSTRIES, LTD.

World Trade Center Building,4-1 Hamamatsu-cho

2-chome,Minato-ku,Tokyo,105-6116 Japan

Tel; 03-3435-2273 Fax; 03-3435-3039

E-mail; sankihp-pj@khi.co.jp

URL; <http://www.khi.co.jp/>

Category:

- A1. Global Warming
- A2. Air Pollution
- A5. Resource Consumption
- B5. Energy Saving
- C4. Product Manufacture

This Fluidized Bed Advanced Cement Kiln (FAKS) is a next-generation technology that utilizes the characteristic of the fluidized bed such as combustion, particle dispersion granulation, etc. This system aims at 1) burning low grade coals efficiently, 2) significantly reducing nitrogen oxide (NOX) emission, 3) and increasing thermal efficiency by efficiently recovering heat from solids and gas discharged from the process. In order to comply with 1) the global environmental preservation, 2) the energy conservation, 3) and the numerous needs to cements. These objectives were achieved by utilizing the characteristic of the fluidized bed process.



Products/Model :

FAKS

Eco-products No.0351

Machines and Equipments

VOC recovery equipment

IDESORB—G/-B/-Y, recovery of VOC by the PSA method

Idemitsu Engineering Co., Ltd.

Makuhari Techno Garden B23 Nakase 1-3 Mihamaku Chiba Chiba

Tel; 043-296-6971 Fax; 043-296-6949

E-mail; masashi.fukazawa@si.idemitsu.co.jp

URL; <http://www.idemitsu.co.jp/en>

Category:

- A3. Hazardous Substance
- B6. Environmental Purification
- C6. End-of-Life

The product is the equipment for the recovery of a volatile organic compound (VOC) by the pressure swing adsorption (PSA) method. Recovery principle of PSA is as follows: The gas containing VOC is allowed to pass through an adsorption column in which incombustible and special silica gel was filled. After an appropriate period, the valves are automatically switched, the column is evacuated and the adsorbed VOC is desorbed from the surface of the silica gel. The recovery of gasoline and benzene is possible with the equipment. The recovery of the hydrocarbon having chlorine (*) is also possible, as well as the case of the water-soluble organic compounds such as alcohol, ketene and ester. (*) dichloromethane, ethylene-dichloride, chloroform, etc.



Products/Model :
IDESORB-Y

Eco-products No.0352

Machines and Equipments

VOC recovery equipment

IDESORB-Y, recovery of VOC by the TSA method

Idemitsu Engineering Co., Ltd.

Makuhari Techno Garden B23 Nakase 1-3 Mihamaku Chiba Chiba

Tel; 043-296-6971 Fax; 043-296-6949

E-mail; masashi.fukazawa@si.idemitsu.co.jp

URL; <http://www.idemitsu.co.jp/en>

Category:

- A3. Hazardous Substance
- B6. Environmental Purification
- C6. End-of-Life

The product is the equipment for processing VOC in the air by the temperature swing adsorption (TSA) method. Incombustible and special silica gel is the adsorption medium and VOC is trapped and released by the surface of the silica gel owing to the temperature swing. Unlike the TSA method using the steam deposition, the condensed water is not mixed with the recovery water. The present method is applicable to not only VOA, but also the substance which is soluble in water, such as alcohol, ketene and ester.



Products/Model :
IDESORB-G, IDESORB-B, IDESORB-Y

Eco-products No.0353

Others

Vending machine

CVA-PC6330ATR, energy-saving type vender

Sanden Corporation

1-31-7, Taito, Taito-ku, Tokyo, 110-8555, Japan

Tel; 03-3833-1211 Fax; 03-3833-7095

E-mail; office@sanden.co.jp

URL; <http://www.sanden.co.jp/>

Category:

- A1. Global Warming
- B4. Higher Quality
- B5. Energy Saving
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

For vender machine, we have repeated various improvements based on the LCA. They include the improvement on the cooling system, that of the air tightness and that of the thermal insulation. Then, in order to solve the problem that the milk constituent of coffee drink deteriorates in long-term heating, we have developed the technology for heating the minimum coffee can necessary for the sale. Moreover, vacuum heat insulation material is used for the wall material of this heating room. A remarkable effect on the energy consumption was brought about by these improvements. Basing upon these achievements, we developed a new model CVA-PC6330ATR. The machine is an epoch-making vender for drinks. Energy save of the new machine is a 61% to the machine in 1990 ages, and a 34% to the pre-model machine that was developed in fiscal 1999.



Products/Model :
CVA-PC6330ATR

Eco-products No.0354

Others

Cold-air circulation open showcase

RSC-S series, FAZ-series, energy-saving type open showcase

Sanden Corporation

1-31-7, Taito, Taito-ku, Tokyo, 110-8555, Japan

Tel; 03-3833-1211 Fax; 03-3833-7095

E-mail; office@sanden.co.jp

URL; <http://www.sanden.co.jp/>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

The cold-air circulation open showcase prevents the inversion of a heat from the outside by an air curtain. Therefore, the difference of the power consumption occurs by the performance of the air curtain. As for this product, a newly developed air curtain was adopted and the amount of heat inversion was drastically reduced in comparison with the conventional one. The power consumption was reduced by using a DC fan system and a newly developed high-efficient heat exchanger. Relating to the environment problem, the change of refrigerant from R22 to R404A was carried out, with the stop of the use of the vinyl chloride except for electric wires. The products are suitable for the cold-air circulation open showcase used in convenient stores and super-markets.



Products/Model :
RSC-S series FAZ series

Eco-products No.0355

Machines and Equipments

Copper tube annealing furnace

Copper tube annealing furnace with degreasing system

DAIDO STEEL CO., LTD.

6-35, 1-Chome, Konan, Minato-ku, Tokyo 108-8478 Japan

Tel; 03-5439-1273 Fax; 03-5439-6740

E-mail; t-kimura@ac.daido.co.jp

URL; <http://www.daido.co.jp>

Category:

- A1. Global Warming
- B3. Resource Saving
- B5. Energy Saving
- C3. Design and Material Selection

To abolish the cleaning process of processing lubricant, air-conditioning manufactures have started processing with high volatility lubricant because of production regulation on tri-ethane and special chlorofluorocarbon. Accordingly, cleaning with tri-ethane becomes unnecessary because high volatility lubricant has been used. However, even when high volatility lubricant is used, 10 mg/m lubricant within copper tube is left; this may lead brazing faults. Therefore, we developed the copper tube annealing furnace with degreasing system, which features that automatic degreasing is realized under 0.1 mg/m using the heat during annealing process without addition of lubricant clearing process within the copper tube.



Eco-products No.0356

Others

Hydraulic Fluid

Hydraulic Fluid that reduces Water and Soil Contamination

Cosmo Oil Lubricants Co., Ltd.

9-25, Shibaura, 4-chome, Minato-ku, Tokyo, 108-0023 Japan

Tel; 03-3798-3831 Fax; 03-3798-3185

E-mail;

URL; <http://www.cosmo-lube.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

COSMO TERRA FLUID Series meets JEA(No.110), and is designed for environmentally sensitive applications.



Products/Model :

COSMO TERRA FLUID E 46 ・ 56

Eco-products No.0357

Others

Turbine Oil

Turbine Oil for Hydro-generator to reduce Water and Soil Contamination

Cosmo Oil Lubricants Co., Ltd.

9-25, Shibaura, 4-chome, Minato-ku, Tokyo, 108-0023 Japan

Tel; 03-3798-3831 Fax; 03-3798-3185

E-mail;

URL; <http://www.cosmo-lube.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

COSMO TERRA TURBINE 46 meets JEA(No.110), and is designed for environmentally sensitive applications.



Products/Model :
COSMO TERRA TURBINE 46

Eco-products No.0358

Others

Grease for Agriculture and Civil Engineering

Grease to reduce Water and Soil Contamination

Cosmo Oil Lubricants Co., Ltd.

9-25, Shibaura, 4-chome, Minato-ku, Tokyo, 108-0023 Japan

Tel; 03-3798-3831 Fax; 03-3798-3185

E-mail;

URL; <http://www.cosmo-lube.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

COSMO TERRA GREASE UR 2 meets JEA(No.110), and is designed for environmentally sensitive applications.



Products/Model :
COSMO TERRA GREASE UR 2

Eco-products No.0359

Others

Diesel Engine Oil

Diesel Engine Oil for PM Reduction System Mounted Vehicle

Cosmo Oil Lubricants Co., Ltd.

9-25, Shibaura, 4-chome, Minato-ku, Tokyo, 108-0023 Japan

Tel; 03-3798-3831 Fax; 03-3798-3185

E-mail;

URL; <http://www.cosmo-lube.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

COSMO ECO-DIESEL KAISEI gives supreme performance in automotive diesel engines with PM reductional assy. Using 「KAISEI」 is able to get easily, overall cost, oil consumption, used oil disposition.



Products/Model :
COSMO ECO-DIESEL KAISEI

Eco-products No.0360

Others

Hydraulic Fluid

Hydraulic Fluid for Reducing Power Consumption (Energy Conservation)

Cosmo Oil Lubricants Co., Ltd.

9-25, Shibaura, 4-chome, Minato-ku, Tokyo, 108-0023 Japan

Tel; 03-3798-3831 Fax; 03-3798-3185

E-mail;

URL; <http://www.cosmo-lube.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

Cosmo Super Epos UF is expected to produce energy conservation by matching high-performance base oil with carefully screened additives. In addition, the product from non-zinc series can reduce sludge from the thermal oxidation and can be used for long periods of time.



Products/Model :
COSMO SUPER EPOCH UF 46

Eco-products No.0361

Others

Biodegradable hydraulic oil

Eco-friendly Bio Green Grass biodegradable hydraulic oil for off-road machines

KUBOTA Corporation

1-2-47 Shikitsu-higashi, Naniwa-ku, Osaka 556-8601 Japan

Tel; 06-6648-2111 Fax;

E-mail;

URL; www.kubota.co.jp/index.html

Category:

- A3. Hazardous Substance
- A4. Waste
- B4. Higher Quality
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

This environmentally-friendly oil is degraded by microorganism and will not cause environmental damage if spilled onto grass, soil or into a river following a construction accident. We developed the technology for the world's first hydraulic oil that does not kill the grass. Eco-label certification criteria as biodegradable.

It is certified as an Eco-label product by Japan Environment Association.



Products/Model :
Bio Green Grass

Eco-products No.0362

Others

Desulfurization catalyst for light oil

High performance desulfurization catalyst for sulfur-free light oil production

Nippon Oil Corporation

3-12 Nishi Shinbashi 1-chome , Minato-ku, Tokyo, 105-8412 Japan

Tel; 03-3502-9184 Fax; 03-3502-9389

E-mail;

URL; <http://www.eneos.co.jp/>

Category:

- A2. Air Pollution
- A4. Waste
- B4. Higher Quality
- B6. Environmental Purification
- C6. End-of-Life

We have developed and marketed a desulfurization catalyst that efficiently produces sulfur-free light oil (with 10 ppm sulfur or less).

The catalyst has a desulfurization capability which is twice that of a conventional product, thereby reducing environmental impact as follows:

- 1) Decreasing the investment on production facilities.
- 2) Reducing NOx and airborne particles in the exhaust gas from diesel vehicles with expansion of sulfur-free light oil.
- 3) Reducing waste (the catalyst can be reused several times through reproduction) recycling OR reprocessing.



Products/Model :
NHS-204

Eco-products No.0363

Others

Two Cycle Engine

Two Cycle Engine to reduce Water and Soil Contamination

Cosmo Oil Lubricants Co., Ltd.

9-25, Shibaura, 4-chome, Minato-ku, Tokyo, 108-0023 Japan

Tel; 03-3798-3831 Fax; 03-3798-3185

E-mail;

URL; <http://www.cosmo-lube.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair
- C6. End-of-Life

COSMO TERRA 2 CYCLE meets JEA(No.110), and is designed for environmentally sensitive applications.



Products/Model :
COSMO TERRA 2 CYCLE

Eco-products No.0364

Others

Offset Printing Ink

Offset printing ink containing vegetable oil re-refined from waste oil

Toppan Printing Co., Ltd.

1-11-1 Shimura, Itabashi-ku, Tokyo, 174-8558 Japan

Tel; 03-3835-5111 Fax;

E-mail; kouhou@toppan.co.jp

URL; http://www.toppan.co.jp/index_n.html

Category:

- A5. Resource Consumption
- B1. Recyclability
- B3. Resource Saving
- C1. Material Extraction
- C2. Material and Components Production

Offset printing ink consists of pigment, solvent, vegetable oil, and adjuvant and usually, the vegetable oil used is virgin oil.

However, Toppan Printing uses reclaimed vegetable oil (the major ingredient is reclaimed soybean oil) as regular ink for rotary offset printing. The oil is re-refined from waste cooking oil originally used for meals served in schools and Japan's Self Defense Forces. This resource-saving ink is more suited to a recycling-oriented society than regular soybean ink.



Eco-products No.0365

Others

Glass bottle

Toyo Glass ultra light stock bottle series

Ultra light resource-saving glass bottles for alcoholic beverages and foods

Toyo Glass Co., Ltd.

3-1,Uchisaiwaicho 1-chome, Chiyoda-ku,Tokyo 100-0011 Japan

Tel; 03-5510-7130 Fax; 03-5510-7106

E-mail; sohichiroh_ohkoshi@toyo-glass.co.jp

URL; <http://www.toyo-glass.co.jp/index.html>

Category:

- A1. Global Warming
- A4. Waste
- B3. Resource Saving
- C1. Material Extraction
- C6. End-of-Life

Products in this series are ultra light bottles (as defined by the Japan Glass Bottle Association). The amount of glass used is minimized and, when compared to other bottles worldwide, they are amongst the lightest. The bottles are resource-saving and energy-saving and make a significant contribution to environmental conservation by reducing CO₂ emissions. In addition, when packed in cases, freight handling is much easier.



Products/Model :

Toyo Glass Ultra Light Weight Stock Bottles

Eco-products No.0366

Others

Films with lens

"QuickSnap" for general users, considering "reducing, reusing, and recycling"

Fuji Photo Film Co., Ltd.

26-30, Nishiazabu 2-Chome, Minato-ku Tokyo 106-8620 Japan

Tel; 03-3406-2291 Fax; 03-3406-2131

E-mail; ecorepo@fujifilm.co.jp

URL; <http://home.fujifilm.com/>

Category:

- B1. Recyclability
- B3. Resource Saving
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

The Fujicolor "QuickSnap" is designed and produced based on the 3R concept. Since its inception in 1986, the design of the "QuickSnap" has gradually become smaller and smaller until now the camera is half its original size. Since 1990, the flash unit and lens have been reused in the camera. The flash unit is designed to be compatible with other types of "QuickSnap" cameras, thus greatly enhancing reusability. The cover of the body is made of polystyrene, which is also recycled after disassembly. A new polystyrene recycling process has been developed which decreases energy consumption by as much as 30% compared with existing processes. LCA estimates show that emissions of CO₂ gas generated during the entire process can be reduced by more than 60% through the use of increased recycling. Efforts are also currently underway to make all the lead based solder used in the flash units lead free.



Products/Model :

"The Fujicolor ""QuickSnap"" Night&Day"

Eco-products No.0367

Others

Battery energy storage

NAS Battery for large-scale stores materializing high-density / longevity / high-efficiency

NGK INSULATORS, LTD.

2-56 Sudacho Mizuhoku Nagoya, 467-8530 Japan

Tel; 052-872-7178 Fax; 052-872-7513

E-mail; t-oshima@ngk.co.jp

URL; <http://www.ngk.co.jp/english/index.html>

Category:

- A2. Air Pollution
- B2. Longevity
- B3. Resource Saving
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair

NAS Battery emits no exhaust gas since there is no combustion process. It generates no noise or vibration in use, thus contributing to a better local environment and it has reduced CO₂ emissions compared with power generators that involve a combustion process.



Products/Model :
NAS Battery

Eco-products No.0368

Others

Printing paper

Eco-paper incorporating pulp from thinned woods that promote sound forest development.

HEIWA PAPER CO., LTD.

1-22-11, Shinkawa, Chuo-ku, Tokyo 104-0033, Japan

Tel; 03-3206-8501 Fax; 03-3206-8600

E-mail; soumu@paper-hsk.co.jp

URL; <http://www.paper-hsk.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B7. Usage of Recycled Material
- C1. Material Extraction

This paper contains 10% pulp made from "thinned woods". The remaining 90% pulp is from used paper. The paper is simple with a woody texture.

It is the first standard stock product for general printing from thinned woods.

The product complies with the law on Promoting Green Purchasing. It is an EcoMark-certified product and a thinned wood mark-certified product.



Eco-products No.0369

Others

Printing Paper from Planted Tree Series

Printing Paper from Afforestation to conserve Forest Resources

Oji Paper Co., Ltd.

Ginza 4-7-5, Chuo-ku, Tokyo, 104-0061 Japan

Tel; 03-3563-7020 Fax; 03-3563-1139

E-mail; kikunori-matsubara@ojipaper.co.jp

URL; <http://www.ojipaper.co.jp>

Category:

● B1. Recyclability

Oji Paper is working to improve the environment by complying with environmental regulations through its "Oji Paper Environmental Charter." The company contributes to the realization of a true wealthy society from a global viewpoint, setting "Recycling of Forests" for positive development of afforestation projects and "Recycling of Paper" to utilize waster paper.

Paper products from the 'Planted Tree' series use pulp from the company's own afforestation activities.

Products/Model :

OK Top-kote Matte N afforestation

Eco-products No.0370

Others

Recycled Paper Series Office Paper

Business Form Paper for high printing quality and smooth running

Oji Paper Co., Ltd.

Ginza 4-7-5, Chuo-ku, Tokyo, 104-0061 Japan

Tel; 03-3563-7020 Fax; 03-3563-1139

E-mail; kikunori-matsubara@ojipaper.co.jp

URL; <http://www.ojipaper.co.jp>

Category:

● B1. Recyclability

Oji Paper is working to improve the environment by complying with environmental regulations through its "Oji Paper Environmental Charter."

The company contributes to the realization of a true wealthy society from a global viewpoint, setting "Recycling of Forest" for positive development of afforestation projects and "Recycling of Paper" to better use waste paper.

Products in the recycled paper series have the same degree of whiteness and are just as suitable for printing use as fresh pulp items.

Products/Model :

OK Form Green 100

Eco-products No.0371

Others

RECO View Sheet/IC Tag Sheet

RECO-View Sheet/IC Tag Sheet: Paper resources reduction, cut cost

Ricoh Company, Ltd.

1-15-5, Minami-Aoyama, Minato-ku, Tokyo, 107-8544, Japan

Tel; 03-5411-4404 Fax; 03-5411-4410

E-mail; envinfo@ricoh.co.jp

URL; <http://www.ricoh.co.jp/ecology/>

Category:

- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- B2. Longevity
- B3. Resource Saving

RECO-View Sheet/IC Tag Sheet can be utilized as business form that can be rewritten whenever necessary with a combination of RFID and rewritable display function. The form can be display rewritten about 1000 times. In addition to the features of RFID such as real-time management of inventories and production process situations, its rewritable display-based digital information visualization allows a wide variety of utilization. It also realizes prevention of single round of RFID, reduction of operating cost and substantial cut of paper resources.



Products/Model :
RECO-View Sheet 530BF

Eco-products No.0372

Others

Paper exhibition panel

Eco-friendly paper panel exhibition board

Shin Nippon Core Co., Ltd.

1-3-9 Kokaba Iwatsuki-shi Saitama-ken, 339-0072 Japan

Tel; 048-793-1171 Fax; 048-793-2775

E-mail; shin-nippon@sncore.jp

URL; <http://www.sncore.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- C1. Material Extraction
- C6. End-of-Life

Explanation panels used at exhibitions are usually made from styrene which contains petroleum so the boards are disposed of as industrial waste.

However, the OK eco-panel with direct printing can be recycled after use or disposed of by incineration with little environmental impact. This is because it is made from paper and has a combined structure of G-flute corrugated cardboard with a honeycomb core which is light and strong.



Products/Model :
OK Eco-panel Direct printing Type

Eco-products No.0373

Others

Digital camera

Ultra thin, compact design in 4 stylish colors, 4-Megapixels CCD, High Resolution Lens

Canon Inc.

30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, 146-8501 Japan

Tel; 03-3758-2111 Fax;

E-mail;

URL; <http://canon.jp/>

Category:

- A3. Hazardous Substance
- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality
- B5. Energy Saving

Canon's Digital IXUS i is a 4-Megapixel digital camera with a compact, lightweight design that is only 18.5mm thick and weighs around 100g. By making use of the world's first "highly refractive glass" and "high-refraction, double-sided aspheric surface glass-mold lenses" with a refraction index in excess of 2.0, we have successfully produced a compact camera offering excellent performance. Lead categorized as hazardous is not used in the F2.8 single-focus lens, which has a focal length of 6.4mm.



Products/Model :

CANON DIGITAL CAMERA DIGITAL IXUS i

Eco-products No.0374

Others

Digital Camera

Eco-friendly EF Lenses with High Image Quality

Canon Inc.

30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, 146-8501 Japan

Tel; 03-3758-2111 Fax;

E-mail;

URL; <http://canon.jp/>

Category:

- A3. Hazardous Substance
- A4. Waste
- B6. Environmental Purification
- C2. Material and Components Production
- C4. Product Manufacture

Preventing sludge from polluting the environment requires a complex and large-scale treatment process. Lead-free lenses will sweep away the root use of lead. Canon launched the development of lead-free lenses in partnership with glass material manufactures and was successful in developing lenses with the same optical features, durability and workability as conventional lenses, using substances that do not cause harm to people or the environment.

At least 100 types of Canon lenses, including EF lenses, are made of Lead-free glass materials.



Products/Model :

Canon EF lenses

Eco-products No.0375

Others

Digital Camera

Canon DV Camera MVX35i with High Image Quality

Canon Inc.

30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, 146-8501 Japan

Tel; 03-3758-2111 Fax;

E-mail;

URL; <http://canon.jp/>

Category:

- A3. Hazardous Substance
- A4. Waste
- B4. Higher Quality
- B6. Environmental Purification
- C3. Design and Material Selection

Canon's ultra-compact digital camcorder provides high quality moving images and freeze-frame pictures. It is equipped with the high-performance "DIGIC DV" engine, developed by Canon. The company's first priority is "Working on global environmental assurance based on a philosophy of harmonious co-existence (Kyosei)." Eco-friendly design aspects, such as the application of lead-free soldering for board mounting and use of hexavalent chromium-free screws and lead-free lenses, are incorporated into DV cameras.



Products/Model :

DIGITAL VIDEO CAMCORDER CANON
MVX35i

Eco-products No.0376

Others

Digital Camera

EOS-1D: A RoHS-compliant digital SLR for professionals

Canon Inc.

30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, 146-8501 Japan

Tel; 03-3758-2111 Fax;

E-mail;

URL; <http://canon.jp/>

Category:

- A3. Hazardous Substance
- A4. Waste
- B4. Higher Quality
- B6. Environmental Purification
- C3. Design and Material Selection

The RoHS Directive concerning the "Limitation of Specific Hazardous Substances contained in Electric and Electro Equipment" will be enforced from July 2006 in the EU. It is intended to restrict and prohibit the use of specific hazardous substances in electric and electro equipment.

The EOS-1D Mark II is an eco-friendly product that complies with the RoHS Directive, a European environmental regulation concerning lead/hexavalent chromium/mercury/cadmium/specific bromine flame-retardant materials PBB/PBDE.



Products/Model :

EOS-1D Mark II

Eco-products No.0377

Others

Digital camera

Slim, Miniature Digital camera /

CASIO Computer Co., Ltd.

6-2, Hon-machi 1-chome, Shibuya-ku, Tokyo 151-8543, Japan

Tel; 03-5334-4964 Fax; 03-5334-4675

E-mail;

URL; <http://www.casio.co.jp>

Category:

- A5. Resource Consumption
- B2. Longevity
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

In order to attain miniaturization and slimmest composed of picture processor or memory, we stereopackage plural LSI by ultra high density packaging technology, and in addition so as to turn it into 1 chip through lamination by package level.



Eco-products No.0378

Others

Film-in Single Use Camera

Reuse/recyclable Film-in single use camera

Konica Minolta Photo Imaging, Inc.

26-2 Nishi-Shinjuku1- chome, Shinjuku-ku, Tokyo 163-0512 Japan (Head Office)

Tel; 042-589-8182 Fax; 042-589-3883

E-mail; eco-support@konicaminolta.jp

URL; <http://konicaminolta.jp>

Category:

- A1. Global Warming
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

■ Use of standardized parts: Apart from the front cover and flash, all Goody SUCs are made from standardized parts. This makes the product much easier to reuse and recycle.

■ Materials integration: All plastic parts in our SUCs are produced from the same type of polystyrene to make material recycling easier (except the lens and flash panel). Material used is standardized as far as possible.



Products/Model :
Konica Minolta Film-in

Eco-products No.0379

Others

Digital Camera

Eco-conscious, smaller digital camera

Konica Minolta Photo Imaging, Inc.

26-2 Nishi-Shinjuku 1-chome, Shinjuku-ku, Tokyo 163-0512 Japan (Head Office)

Tel; 06-6110-0675 Fax; 06-6532-6252

E-mail; masafumi.inaba@konicaminolta.jp

URL; <http://konicaminolta.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving
- C3. Design and Material Selection

Konica Minolta gives priority to product downsizing since this helps to conserve resources at the manufacturing stage, curtail energy use at the product delivery stage, and reduce environmental impact after products are discarded. Digital cameras in the DiMAGE X series are equipped with Konica Minolta's original refracting zoom lenses, which help to make the cameras smaller and lighter. Further improvements were made to the DiMAGE Xg to achieve a more compact size. As a result, its weight was reduced by 11% compared with conventional cameras in the DiMAGE X series (released in February 2002).



Products/Model :
DiMAGE Xg

Eco-products No.0380

Others

Digital steel camera

NIKON digital camera COOLPIX 5400 Sophisticated digital camera featuring lead & arsenic-free ecoglass

NIKON CORPORATION

Fuji Bldg., 2-3, Marunouchi 3-chome, Chiyoda-ku, Tokyo 100-8331 Japan

Tel; 03-3214-5311 Fax;

E-mail;

URL; www.nikon.co.jp

Category:

- A3. Hazardous Substance
- A5. Resource Consumption
- B3. Resource Saving
- C3. Design and Material Selection
- C5. Product Use, Maintenance and Repair

Equipped with a high-spec lens of 4X zoom from wide-angle 28mm, we have used high lens technology to develop a more lightweight version of our previous model and are continuing with energy-saving designs. Compared with the COOLPIX 5000, commodity mass is lowered by 11%, battery life is improved by 10% and it uses 100% lead/arsenic-free ecoglass.



Products/Model :
NIKON Digital Camera • COOLPIX 5400

Eco-products No.0381

Others

Weather Protection

Weather Protection: Weather Derivatives, Weather Insurance, Wind Speed

The Tokio Marine and Fire Insurance Co., Ltd.

2-1, Marunouchi 1-chome, Chiyoda-ku, Tokyo 100-8050, Japan

Tel; 03-3285-0274 Fax; 03-5223-3013

E-mail; YUUKO.NISHITANI@tokiomarine.co.jp

URL; <http://www.tokiomarine.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- C4. Product Manufacture
- C5. Product Use, Maintenance and Repair

Ecology-related industries have a great risk of setting up and managing business due to that their operations and performance depends on weather phenomenon and climatic aberration. We support a variety of business ventures and operations by having risk-transferred products, weather derivatives and weather insurance assume a part of this risk. Example: "Wind Condition Protection" for wind power generation utilities



Eco-products No.0382

Metals

Diesel Particulate filter

Diesel Particulate filter to reduce particulate matter in exhaust gas

Mitsubishi Cable Industries, Ltd.

4-3, Ikejiri, Itami-City, Hyogo 664-0027, Japan

Tel; 072-781-8293 Fax; 072-781-8866

E-mail; Masaaki_Nagai@mitsubishi-cable.co.jp

URL; <http://www.mitsubishi-cable.co.jp>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- B4. Higher Quality
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

This product reduces the amount of toxic PM (particulate matter) in the exhaust gas of diesel vehicles. It is possible to significantly reduce PM using our technology to shape reticulate material used in the catalyst filter, followed by burning PM.



Products/Model :
Diesel Particulate Filter

Eco-products No.0383

Others

Prewashed rice

Prewashed rice for consumers/restaurants preventing aqueous contamination by washing rice

TOYO RICE CLEANING MACHINE CO., LTD.

12 Kuroda, Wakayama-city 640-8341, Japan

Tel; 073-471-3011 Fax; 073-471-7033

E-mail; kikaku@toyoseimaiki.co.jp

URL; <http://www.toyoseimaiki.co.jp>

Category:

- A4. Waste
- B3. Resource Saving
- B6. Environmental Purification
- C4. Product Manufacture
- C5. Product Use, Maintenance and Repair

BG prewashed rice has been cleaned of bran by an ingenious rice-cleaning machine which does not use chemicals. It avoids the problem of water contamination from phosphorus and nitrogen and bran collected during the manufacturing stage is recycled as organic fertilizer or feed.



Products/Model :

BG prewashed rice

Eco-products No.0384

Others

"Ebios" tablet

"EBIOS" tablet, a by-product in the manufacture of beer

Asahi Breweries, Ltd.

23-1, Azumabashi 1-chome, Sumida-ku, Tokyo 130-8602 Japan

Tel; 03-5608-5195 Fax; 03-5608-5201

E-mail; ecopost@asahibeer.co.jp

URL; <http://www.asahibeer.co.jp/>

Category:

- A4. Waste
- B7. Usage of Recycled Material
- C1. Material Extraction

Asahi Food & Healthcare, Ltd (Asahi Beer Co. Group) produces medicine, health food, stuff for food, food for animals, etc by using the washed and dried material of the brewing yeast which is obtained in the manufacture of beer. In particular, the medicine "EBIOS" tablet, which contains so many as 18 kinds of nutrients including amino acid, is a long seller having a history of more than 70 years. We have started selling a new version of health food supplement "Super Beer Yeast", recently. Brewing yeast is a natural substance good for the health and we are doing the production of various foods and medicines by applying the features of brewing yeast.



Products/Model :

Ebios

Eco-products No.0385

Others

Optical Fiber Cable

Highly recyclable Waterproof Optical Fiber Cable for Carriers

Showa Electric Wire & Cable Co., Ltd.

No.1-18, Toranomom 1-chome, Minato-ku, Tokyo, 105-8444 Japan

Tel; 042-774-7901 Fax; 042-773-3961

E-mail;

URL; <http://www.swcc.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- C3. Design and Material Selection
- C6. End-of-Life

Material recycling between facing materials becomes a focus of attention as a recycling method for optical fibers. Traditionally, the water-absorbing tape around a cable core stuck fast to the facing material. It could not be separated from the materials during recycling, so optical fibers could not be recycled as the facing material needs to be of extremely high quality. However, by coating the surface of the tape with an acrylic resin, separation becomes easy and this substantially improves the ease of recycling.



Products/Model :
Waterproof Optical Fiber Cable

Eco-products No.0386

Others

Aluminum Conductor Carbon Fiber Reinforced

Aluminum Conductor Carbon Fiber Reinforced

Showa Electric Wire & Cable Co., Ltd.

No.1-18, Toranomom 1-chome, Minato-ku, Tokyo, 105-8444 Japan

Tel; 042-774-7901 Fax; 042-773-3961

E-mail;

URL; <http://www.swcc.co.jp>

Category:

- A5. Resource Consumption
- B3. Resource Saving
- C2. Material and Components Production
- C5. Product Use, Maintenance and Repair

This product, Aluminum Conductor Carbon Fiber Reinforced, is a new type of electric wire that uses carbon fiber complex materials cable as its reinforced core, replacing the metal core used in conventional products. Since the electric wire is lightweight and has a small coefficient of expansion, it reduces the sag. As well as reducing the weight of the entire steel tower, this product also has a better appearance.



Products/Model :
Aluminum Conductor

Eco-products No.0387

Others

Optical cord

Halogen-free and heavy-metal-free optical cord for connecting apparatus

Sumitomo Electric Industries, Ltd.

1, Taya-cho, Sakae-ku, Yokohama, 244-8588 Japan

Tel; 045-853-7219 Fax; 045-851-9855

E-mail; osada-naomichi@sei.co.jp

URL; <http://www.sei.co.jp>

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- C6. End-of-Life

Conventional optical cord uses PVC as a covering material in order to maintain high flame resistance and mechanical characteristics. The PVC releases hydrogen chloride and heavy smoke when burned, which may impact on the environment. Therefore, we developed covering material that includes neither halogen nor harmful heavy metal yet offers almost the same characteristics as conventional cord. The new cord includes a new covering material, which also has low smoke release.



Eco-products No.0388

Others

Power cable

Electric power cable considering transmission loss

KITANIHON ELECTRIC CABLE CO., LTD.

6-2, Aza-Mukaiharamae, Kagitori, Taihaku-ku, Sendai, Miyagi

982-8511 Japan

Tel; 022-307-1800 Fax; 022-307-1763

E-mail; knd-pd@post.tinet-i.ne.jp

URL; <http://www.kitaniti-td.co.jp>

Category:

- A1. Global Warming
- A5. Resource Consumption
- B4. Higher Quality
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

"Fin equipped power cable with low transmission loss" achieves small transmission loss of power cable by reducing electrical resistance by 20% compared to conventional aerial power cable. In order to achieve the small electrical resistance, the entire aluminum wire is compressed into conductor to increase cross-sectional area of conductor. In addition, fins are equipped on outer layer of the cable so that the cable is not attached with snow.



Products/Model :
SBACSR/UGS

Eco-products No.0389

Others

Optical fiber cable

Lead-free H-PCF cord/cable for short/medium-distance transmission

Sumitomo Electric Industries, Ltd.

1-1-3, Shimaya, Konohana-ku, Osaka, 554-0024 Japan

Tel; 06-6466-5539 Fax; 06-6466-7973

E-mail; fujita@sei.co.jp

URL; http://www.sei.co.jp/h_pcf/sankousi/top.html

Category:

- A3. Hazardous Substance
- A4. Waste
- B1. Recyclability
- C4. Product Manufacture
- C6. End-of-Life

Conventional H-PCF (Hard plastic clad optical fiber) cord/cable includes a small amount of lead in its PVC material. The new PVC for H-PCF cord/cable that we have developed does not contain any lead. For materials other than PVC, we use materials without lead, chrome, or heavy metals, thereby reducing environmental impact.



Products/Model :

HC, HG, HS, HT series

Eco-products No.0390

Others

Variety of Halogen-free Cables

Variety of halogen-free cables including terminal and fire-protection cables

Mitsubishi Cable Industries, Ltd.

4-3, Ikejiri, Itami-City, Hyogo 664-0027, Japan

Tel; 072-781-8293 Fax; 072-781-8866

E-mail; Masaaki_Nagai@mitsubishi-cable.co.jp

URL; <http://www.mitsubishi-cable.co.jp>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- B6. Environmental Purification
- C6. End-of-Life

“Eco-Safe” is a series of flexible cables using PO (poly-olefin resin) instead of PVC (polyvinyl chloride) used in conventional cables. Owing to the characteristics of poly-olefin resin, “Eco Safe” does not include environmental hormone or halogen materials and does not generate dioxin, halogen gas, or excess smoke when incinerated. The reduction in smoke is also helpful for firefighting and residents’ evacuation in the event of a cable fire. Additionally, this product is flexible and easy to recycle.



Products/Model :

Eco Safe Series

Eco-products No.0391

Others

Wristwatch

Energy-saving Wristwatch

CASIO Computer Co., Ltd.

6-2, Hon-machi 1-chome, Shibuya-ku, Tokyo 151-8543, Japan

Tel; 03-5334-4964 Fax; 03-5334-4675

E-mail;

URL; <http://www.casio.co.jp>

Category:

- A5. Resource Consumption
- B2. Longevity
- B3. Resource Saving
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

This solar powered watch which keeps accurate time and does not require battery replacement, was developed as a supreme environmental product offering maintenance-free operation. We have developed compact models - Model WVH-500DJ (6mm thick) and WVH-100DJ (7mm thick) — by downsizing the antenna by 36%, the battery by 61% and IC/peripheral components by 73% compared with current products.



Eco-products No.0392

Others

Wristwatch

Clean-energy Wristwatch that does not require battery replacement

Citizen Watch Co., Ltd.

1-12, 6-chome, Tanashi-cho, Nishi Tokyo-shi, Tokyo 188-8511, Japan

Tel; 0424-66-1231 Fax; 0424-68-4756

E-mail;

URL; <http://www.citizen.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B2. Longevity
- B3. Resource Saving
- B5. Energy Saving

The wristwatch is powered by electric energy stored in a solar cell's titanium lithium secondary battery by using the battery as a driving system and uses sunlight and fluorescent lamp light to electric energy through a solar cell dial window.

The watch requires no silver oxide cells and the battery does not need replaced since a secondary battery facilitates recharging. This reduces the use of as hazardous metals including mercury and cadmium.



Eco-products No.0393

Others

Coating

Environmental purifying coating for interior materials

Total Clean Inc.

1-2-16, Kushiro, Kawanishi, Hyogo, 666-0024 Japan

Tel; 072-758-5712 Fax; 072-758-1751

E-mail; info@total-clean.co.jp

URL; http://www.total-clean.co.jp

Category:

- A5. Resource Consumption
- B2. Longevity
- B3. Resource Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

This aqueous coating contains "wisdom of forerunners," bitter persimmon extract with no VOC, endocrine-disrupting chemicals etc.

It detoxifies and kills odors such as formaldehyde, acetaldehyde (nicotine odor), ammonia (pet odor) etc. It is available either as a clear coating that won't affect decor or in a colored version for a renewal of old wall papers.

BOD/COD value are low so it decomposes easily in nature.



Products/Model :
ECO-LING

Eco-products No.0394

Others

Coating (paint)

Interior Color-Coating with deodorizing properties

Total Clean Inc.

1-2-16, Kushiro, Kawanishi, Hyogo, 666-0024 Japan

Tel; 072-758-5712 Fax; 072-758-1751

E-mail; info@total-clean.co.jp

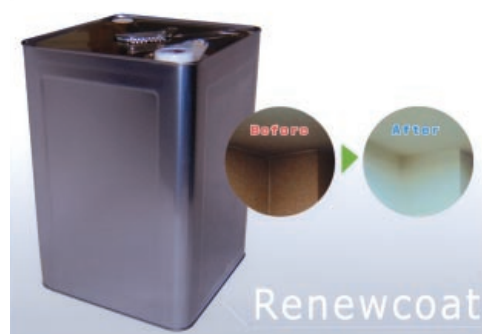
URL; http://www.total-clean.co.jp

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

This coating offers excellent renewal-effect when applied over old wallpaper, reducing industrial waste and contributing to resource conservation. It is a water-based coating with no endocrine disrupter, VOCs etc. It contains persimmon extract which detoxifies and deodorizes odors such as formaldehyde, cigarette smoke and pet odors.

BOD, COD values are low, making it easily decomposed in nature. It is compatible with other materials as well as wallpaper and offers a choice of colors.



Products/Model :
RENEWCOAT

Eco-products No.0395

Others

High-performance Fertilizer

Salt-tolerance improving High-performance Fertilizer containing ALA

Cosmo Oil Co., Ltd. Seiwa Co., Ltd.

Toshiba Bldg., 1-1, Shibaura 1-chome, Minato-ku, Tokyo,
105-8528 Japan

Tel; 03-3798-3215 Fax; 03-3798-3256

E-mail; toru_tanaka@cosmo-oil.co.jp

URL; <http://www.cosmo-oil.co.jp> <http://www.pentakeep.com>

Category:

- A1. Global Warming
- B2. Longevity
- B3. Resource Saving
- B4. Higher Quality
- B6. Environmental Purification

“PENTAKEEP-V” is the only fertilizer in the world that contains ALA. ALA is known to have the following physiological characteristics, making it relevant to environmental fields as well as agriculture.

- 1) ALA promotes plant absorption of fertilizer, so it is expected to lead to the best use of resource and protect against environmental contamination from run-off.
- 2) ALA promotes plant photosynthesis. Its carbon dioxide fixation is expected to contribute to protection of global warming.
- 3) ALA improves salt tolerance. It is expected to contribute to the greening of deserts and alkali soil.



Products/Model :
PENTAKEEP-V

Eco-products No.0396

Others

Deep Layer Aerator

Deep Layer Aerator to provide oxygen for Dams and Lakes

Yokogawa Electric Corporation

9-32, Nakacho 2-chome, Musashino-shi, Tokyo, 180-8750 Japan

Tel; 0422-52-5617 Fax; 0422-52-3421

E-mail; water-sales@csv.yokogawa.co.jp

URL; <http://www.yokogawa.com/>, <http://www.yokogawa.co.jp>

Category:

- B2. Longevity
- B4. Higher Quality
- B5. Energy Saving
- B6. Environmental Purification
- C1. Material Extraction

The bottom of enclosed water bodies such as dams or lakes lacks oxygen from spring to summer. Under this situation, sediment is anaerobically decomposed while nutrient salts, manganese and arsenic elute from bottom sludge. This causes deterioration of water quality. By dissolving concentrated oxygen in bottom water and returning the oxygen to the original bottom, the oxygen diffuses only near a water bottom in carpet form. So, this method enables the efficient supply of oxygen to bottom sludge.



Products/Model :
Gas Dissolving System

Eco-products No.0397

Others

Adhesive Tape

“OPS tape”, recyclable adhesive-tape only for polystyrene goods.

LINTEC Corporation

2-1-2 Koraku, Bunkyo-ku, Tokyo 112-0004, Japan

Tel; 03-3868-7713 Fax; 03-3868-7741

E-mail; ar-kumakura@post.lintec.co.jp

URL; <http://www.lintec.co.jp>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C3. Design and Material Selection
- C6. End-of-Life

“OPS” tape is adhesive labeling tape, the use of which is exclusive to the boxes made of styrene form. The styrene form box and the “OPS” tape attached on it are provided to recycle system as they are, because the material of the box and that of “OPS” tape are homogeneity. There is no need to tear off the tape from the box. In this aspect, “OPS” tape contributes to the recycle of styrene form boxes.



Products/Model :
OPS Tape

Eco-products No.0398

Others

Waste Water Treatment Agent

Inorganic coagulant FA-MICS: Recycles coal ash and reduces environmental load

Tohoku Electric Power Engineering & Construction Co., Inc.

2-15-29, Omachi, Aoba-ku, Sendai-shi, Miyagi, 980-0804 Japan

Tel; 022-261-5431 Fax; 022-64-4138

E-mail;

URL; <http://www.tohatu.co.jp/>

Category:

- A4. Waste
- B1. Recyclability
- B6. Environmental Purification
- B7. Usage of Recycled Material
- C3. Design and Material Selection

FA-MICS is a wastewater treatment agent recycled from by-products (coal ash) generated in coal-fired power stations and chemically treated to increase its capabilities. The agent immediately forms flocculation against water pollutants, is hardly dissolved and generates sludge that has good compaction and dewatering efficiency.

Furthermore, we sell and lend waste-water clarification units (maximum 20m³/h) using FA-MICS that are applicable to a wide variety of fields, such as rivers, lakes, mine waste water and general waste water.



Eco-products No.0399

Others

Re-galvanized hot dip zinc-coated ironware

Re-galvanized hot dip zinc-coated ironware made of used steel products

Cycle Inc.

S • G Bld.2F Higashi-shinbashi Minato-ku Tokyo, 105-0021 Japan

Tel; 03-5401-3196 Fax; 03-5401-3197

E-mail; t-morita@z-cycle.co.jp

URL; <http://www.z-cycle.co.jp/>

Category:

- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C4. Product Manufacture
- C6. End-of-Life

Generally, rusty hot dip zinc-coated metal fittings are disposed of as iron scrap. However, we offer recycled products by collecting those rusty metal fittings and re-galvanizing them after exfoliating the surface coat and rust. This recycling reduces the energy used in the production process to about 1/10 of that of new products. In addition, by electrolyzing wastewater from the sulfuric acid used for exfoliation (sulfuric acid with zinc and iron) with an electrolyzer, it is possible to retrieve and reuse the sulfuric acid and zinc.



Products/Model :
regalvanized steels

Eco-products No.0400

Others

Coated fertilisers

Coated fertilisers (SR Coat and Super SR Coat)

Sumitomo Chemical Co., Ltd.

27-1, Shinkawa 2-chome, Chuo-ku, Tokyo 104-8260, Japan

Tel; 03-5543-5500 Fax; 03-5543-5901

E-mail;

URL; <http://www.sumitomo-chem.co.jp/>

Category:

- A5. Resource Consumption
- B3. Resource Saving
- B4. Higher Quality
- C5. Product Use, Maintenance and Repair

These fertilizers are produced by a resin coating layer to enhance efficiency of use. There are two types of coating available, SR Coat, Super SR Coat. The use of resin coated fertilizers increases resource efficiency and reduces the burden on the environment by decreasing frequency and amount of application compared to conventional fertilizers.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-products No.0401

Others

Hydraulic Fluid Additives

Hydraulic Fluid Additives for Reducing Industrial Waste

Cosmo Oil Lubricants Co., Ltd.

9-25, Shibaura, 4-chome, Minato-ku, Tokyo, 108-0023 Japan

Tel; 03-3798-3831 Fax; 03-3798-3185

E-mail;

URL; <http://www.cosmo-lube.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- C6. End-of-Life

The addition of 5% Cosmo Hydro Clean to the hydraulic fluid currently in use allows powerful dispersal of sludge in tanks and pipes and provides more powerful cleaning than complex oil flushing. The additives also reduce emissions of waste oil.



Products/Model :
COSMO HYDRO CLEAN

Eco-products No.0402

Others

Blackboard Chalk

Eco-friendly school blackboard chalk with additional health benefits

Green Techno 21, Inc.

1828-2 Nagase, Takagise-machi, Saga 849-0917 JAPAN

Tel; 0952-34-5715 Fax; 0952-34-4970

E-mail; info@green-21.com

URL; <http://www.green-21.com>

Category:

- A1. Global Warming
- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C1. Material Extraction

Food companies in Japan dispose of around 250,000 t of eggshells per year. About 80% of these go for incineration. This is a costly process and in addition, it creates CO₂ emissions, posing a risk of global warming. Our company has developed "Cocko Chalk" for school blackboards by reprocessing eggshells into fine particles. While conventional blackboard chalks can cause health problems, such as asthma attacks (and occasionally even skin damage to teachers' fingers), our product is harmless to health thanks to its safe ingredient, natural calcium from eggs.

Thus, we can reduce CO₂ emission and mitigate environmental damage. Our product also preserves minerals since it does not contain gypsum, the main ingredient of conventional chalk.



Products/Model :
Cock-a-chalk

Eco-products No.0403

Others

Line Marking Compound

Line marking compound for schools and athletic fields

Green Techno 21, Inc.

1828-2 Nagase, Takagise-machi, Saga 849-0917 JAPAN

Tel; 0952-34-5715 Fax; 0952-34-4970

E-mail; info@green-21.com

URL; http://www.green-21.com

Category:

- A1. Global Warming
- A4. Waste
- B1. Recyclability
- B7. Usage of Recycled Material
- C1. Material Extraction

Food companies in Japan dispose of around 250,000 t of eggshells per year. About 80% of these go for incineration. This is a costly process and in addition it creates CO₂ emissions, posing a risk of global warming. Our company has developed "Gaia Field Line" for field line marking by reprocessing eggshells into fine particles. While conventional slaked lime could pose health risks such as burns or damage to the eyes and skin, our product is harmless to health thanks to its safe ingredient, natural calcium from eggs.

Thus, we can reduce CO₂ emissions and mitigate environmental damage. Our product helps to preserve minerals because it does not contain gypsum, the main ingredient of conventional line marking compound.



Products/Model :

Gaia Field Line

Eco-products No.0404

Others

Rubber cabtire cable

Eco-friendly halogen-free rubber cabtire cable for mobile wireway

Hannan Electric Wire & Cable Co., Ltd.

66-10, Kumai, Kibi, Arida, Wakayama, 643-0023 Japan

Tel; 0737-52-7605 Fax; 0737-52-7607

E-mail; kobayashi-yutaka97@sei.co.jp

URL;

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- B1. Recyclability
- C6. End-of-Life

Halogen-free rubber cabtire cable EM-PPCT reduces halogen gas and dioxin generation when it is burned by using ethylene rubber for its sheath, thus reducing environmental impact. Moreover, the EM-PPCT having the features of flame resistance and flexibility, is light and useful superior to conventional cabtire cables (PNCT) using chloroprene rubber.



Products/Model :

Halogen - free rubber cabtire cable

Eco-products No.0405

Others

Running shoes

Running shoes with PET bottle- recycled artificial leather shoe upper

MIZUNO CORPORATION

1-12-35, Nanko-kita, Suminoe-ku, Osaka 559-8510, Japan

Tel; 06-6614-8455 Fax; 06-6614-8399

E-mail;

URL; <http://www.mizuno.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- B7. Usage of Recycled Material
- C4. Product Manufacture

Material recycled from PET bottles is shoe uppers.

"Mizuno Wave" technology delivers optimal cushioning and stability simultaneously.

The wave plate gives excellent stability, provides shock dispersal and minimizes excessive deformation of weighted parts.

MIZUNO also uses PET bottle-recycled polyester fiber for sportswear, promoting the use of recycled materials.

MIZUNO contributes saving resources and reducing waste.



Products/Model :
RUNNING SHOES

Eco-products No.0406

Others

Recycling System for Used Tickets

Office Supplies from Used Tickets

Nagoya Railroad Co., Ltd.

1-2-4 Meieki Nakamura-ku, Nagoya-shi, Aichi, 450-8501

Tel; 052-588-0805 Fax; 052-588-0809

E-mail; action-eco@nrr.meitetsu.co.jp

URL; <http://www.meitetsu.co.jp>

Category:

- A1. Global Warming
- A4. Waste
- B1. Recyclability
- B3. Resource Saving
- B7. Usage of Recycled Material

- High daily volumes of used tickets can be disposed of without incineration.
- The use of virgin materials can be reduced by utilizing recyclable used tickets.



Products/Model :
Nil

Eco-products No.0407

Others

"Laster Protechs" Guard net

Biodegradable plastic net including chilli for protecting trees and crops

NTT Neomeit Hokuriku Co., Ltd.

1-43-1, Masuizumi, Kanazawa-City, Isikawa, 921-8025 Japan

Tel; 076-226-8322 Fax; 076-226-8825

E-mail; eco@hkr.ntt-neo.co.jp

URL; <http://www.hkr.ntt-neo.com>

Category:

- A1. Global Warming
- A4. Waste
- A5. Resource Consumption
- B6. Environmental Purification
- C6. End-of-Life

This net is made from biodegradable plant sources such as corn, and does not use fossil fuels like petroleum. Additionally, the repellent we use to protect trees and crops from animals and birds is made from chilli pepper extract, another eco-friendly material. After use, the product dissolves to water and carbon dioxide, thanks to nature's microorganisms so it does not generate waste. The generated carbon dioxide is taken into plants and used for photosynthesis, leading to a reduction of CO₂ in the atmosphere.



Products/Model :

RAYSTAR PROTEX

Eco-products No.0408

Others

Waste Tracking Service via Internet

Internet waste tracking service providing information on handling

NTT Advanced Technology Corporation

Neocity Mitaka Bldg. 7F, 3-35-1, Shimorenjaku, Mitaka-city, Tokyo, 181-0013 Japan

Tel; 03-5217-8892 Fax; 03-3270-6286

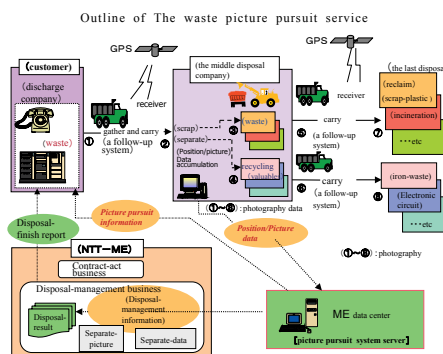
E-mail; kankyo@ntt-me.co.jp

URL; <http://www.ntt-me.co.jp/junkan/kankyo>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- A4. Waste
- B1. Recyclability
- C6. End-of-Life

This Internet service for waste treatment monitoring avoids the need for someone to be present when waste leaves a site or arrives at the intermediate treatment plant. Instead, the waste material handling course can be confirmed with GPS via the Internet. This helps the environment by providing a variety of savings such as in energy consumed and CO₂ emitted by cars, trains, and airplanes and also saves paper by recording treatment steps in electronic files.



Products/Model :

The Waste picture pursuit service

Eco-products No.0409

Others

Environmental Management Support System

“Smart-Eco” Integrated system with functions to support environmental management

NTT GP-ECO Communication, Inc.

Shakujii Koen Peerless 2F, 2-14-1 Shakujii-machi Nerima-ku Tokyo,
177-0041 Japan

Tel; 03-5910-7900 Fax; 03-5910-7880

E-mail; info@ntt-gp.com

URL; http://www.ntt-gp.com

Category:

- A1. Global Warming
- A4. Waste
- A5. Resource Consumption
- B3. Resource Saving
- B5. Energy Saving

“Smart-Eco” has a variety of functions such as computerized approval and distribution, computerized management of activities, and environmental information gathering which are all important to the operation of an environmental management system. It helps to reduce the amount of paper used, and reduces the time necessary for the business activities for environmental management to about 1/3 of the conventional systems. It incorporates a plan-do-check-action cycle and is also capable of compiling the information needed to write an environmental report. We also provide web-based training for employees that can be customized according to customer demand by applying the unique assignment a customer addresses to teaching materials.



Products/Model :
Smart-Eco

Eco-products No.0410

Others

Aluminum paste for painting

An aluminum paste with little use of volatile organic compounds

Showa Denko K.K.

13-9, Shiba Daimon 1-chome, Minato-ku, Tokyo, 105-8518 Japan

Tel; 03-5470-3610 Fax; 03-3435-9606

E-mail;

URL; http://www.sdk.co.jp

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- C2. Material and Components Production
- C3. Design and Material Selection
- C4. Product Manufacture

We are developing an aluminum paste to cope with water-based metallic paints with water as the primary solvent, in order to reduce the use of volatile organic compounds which cause air pollution and global warming. We are also developing an odor-free aluminum paste product which contains almost no odorous solvents or compounds and a solvent-free product which deals with ultraviolet-hardened paints and powder coatings.



Eco-products No.0411

Others

Cutting tool

Long-life eco-friendly cutting tool

Sumitomo Electric Hardmetal Corp.

1-1-1, Koya-kita, Itami, Hyogo, 664-0016 Japan

Tel; 072-771-0529 Fax; 072-771-0623

E-mail;

URL; <http://www.sumitool.com/>

Category:

- A5. Resource Consumption
- B2. Longevity
- B4. Higher Quality
- B5. Energy Saving
- C4. Product Manufacture

DLC coating is a DLC coating film that features high performance in lubrication, sealing, and uniformity. The DLC coating allows dry aluminum alloy cutting, eliminating the need for cutting fluid which can have an adverse environmental effect. In addition, it offers a high anti-friction performance and long-life. It can reduce cutting friction by 30%, resulting in energy savings.

※ DLC(= Diamond Like Carbon)



Products/Model :
DLC coating

Eco-products No.0412

Others

Hydrocarbon system cleaner

Eco-friendly Industrial Cleaner

Tosoh Corporation

3-8-2, Shiba, Minato-ku, Tokyo 105-8623, Japan

Tel; Fax;

E-mail;

URL; <http://www.tosoh.co.jp>

Category:

- C5. Product Use, Maintenance and Repair

The HC series is used for degreasing and cleaning metal machine components in the precision equipment and electronics fields. It is a non water-based environmentally-friendly cleaner that does not use chlorofluorocarbon gas or ethane.



Products/Model :
HC-250

Eco-products No.0413

Others

Detergent for air conditioner- cleaning use

“Super cell clean” detergent for energy-saving

Clean Maintenance Co., Ltd.

7-11-1, Kawajiri, Hitachi City, Ibaraki, 319-1411 Japan

Tel; 0294-43-4211 Fax; 0294-43-4216

E-mail; info@air-cm.co.jp

URL; http://www.air-cm.co.jp

Category:

- A1. Global Warming
- B1. Recyclability
- B2. Longevity
- B5. Energy Saving
- C5. Product Use, Maintenance and Repair

Clean Maintenance Co., Ltd has developed a new detergent for the cleaning of air conditioner. In comparison with the previous detergents, the product has the following merits.

1. the product does not injurious to the skin of the hands.
2. the product does not corrode the aluminum material.
3. the product does not worsen the properties of the plastics.
4. the product does not discolor the plastics.
5. the strong cleaning power of the product recovers the performance of air conditioner, which leads to the decrease of the power consumption and the expansion of the life of air conditioner.
6. waste solution of the cleaning is a small amount because the neutralization is unnecessary.
7. reuse of the waste solution is possible.



Products/Model :
Super cell clean

Eco-products No.0414

Others

Analytical instrument

High-speed GPC apparatus: exclusive system for GPC of the high-sensitivity molecular weight determination field, with dramatic reduction in solvent consumption due to shorter measurement time using semi-micro SEC column.

Tosoh Corporation

3-8-2, Shiba, Minato-ku, Tokyo 105-8623, Japan

Tel; 03-5427-5103 Fax; 03-5427-5195

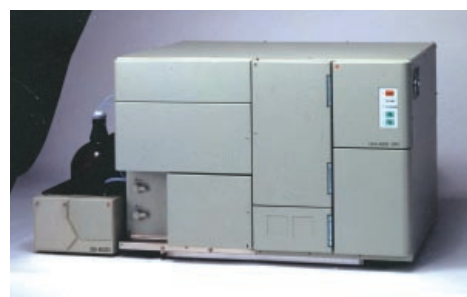
E-mail; tosoh@tosoh.co.jp

URL; http://www.tosoh.co.jp

Category:

- A4. Waste
- B2. Longevity
- B3. Resource Saving
- B4. Higher Quality

HLC-8220GPC is an all-in-one analytical instrument exclusively for GPC equipped with the apparatus necessary for GPC (Gel Permeation Chromatography.) We materialized limit of dead volume with appropriate layout for each functional apparatus and in parallel high reproducibility and high-sensitization. Using semi-micro SEC column (4.6mmI.D._15cm) together has reduced measurement time by half. In addition, solvent consumption has been reduced by 5/6th. (Tosoh Corporation figure)



Products/Model :
Gel Permeation Chromatography system
HLC-8220GPC

Eco-products No.0415

Others

Analytical instrument

Ion Chromatograph IC-2001

Exclusive system for ion chromatography for analytical field of , including environment, underwater ion such as foods, medication or water/sewage, downsized high-performance with simple operation

Tosoh Corporation

3-8-2, Shiba, Minato-ku, Tokyo 105-8623, Japan

Tel; 03-5427-5103 Fax; 03-5427-5195

E-mail; tosoh@tosoh.co.jp

URL; <http://www.tosoh.co.jp>

Category:

- B2. Longevity
- B4. Higher Quality

The Ion chromatograph IC-2001 is an all-in-one, high-performance analytical instrument equipped with an auto-sampler exclusively for ion chromatography.. It uses new suppressor technology developed by Tosoh. It allows easy determination of negative and positive ions with high-sensitivity. It is simple to operate and uses a newly-developed high-separation column. Its compact size (320W × 410D × 400H - comparable to A3 portrait-size), resolves the problem of installation space.



Products/Model :
Ion Chromatography system IC-2001

Eco-products No.0416

Others

Soundproof chamber

Recyclable general purpose soundproof chamber

Yamaha Corporation

10-1 Nakazawa-cho, Hamamatsu, Shizuoka, 430-8650 Japan

Tel; 0120-284-808 Fax; 053-461-7209

E-mail;

URL; <http://www.yamaha.co.jp>

Category:

- A4. Waste
- A5. Resource Consumption
- B1. Recyclability
- B3. Resource Saving
- C6. End-of-Life

This chamber achieves a weight reduction over conventional chambers, while maintaining higher sound insulation performance. As a result of modifications involving changes to the shape and configuration of acoustic materials inside a panel and damping materials or others are modified, it is 15% to 20% lighter than existing products. Moreover, recycling of the product is possible since it does not use vinyl chloride for the ceiling, wall cloth or door materials.



Products/Model :
AvitecsTM (Mini Type)

Eco-products No.0417

Others

Drums

General-use drum using less paint

Yamaha Corporation

10-1 Nakazawa-cho, Hamamatsu, Shizuoka, 430-8650 Japan

Tel; 053-411-4744 Fax;

E-mail;

URL; <http://www.yamaha.co.jp>

Category:

- A2. Air Pollution
- A3. Hazardous Substance
- C4. Product Manufacture

It is difficult to make the coating of a drum aqueous because of problems in maintaining its tone and durability. However, development of a new painting technology has achieved aqueous painting. As a result, the undercoat paint inside a main drum can be changed to aqueous coating.

Additionally, the transparent final coating and walnut coating is reduced by 10% with a UV coating (using ultraviolet hardening-type coating).



Products/Model :
Drums Absolute Series etc.

Eco-products No.0418

Others

Support System for Environmental Management

Greening stuff including temperature-sensitive resin that absorbs and discharges water

NTT GP-ECO Communication, Inc.

Shakujii Koen Peerless 2F, 2-14-1 Shakujii-machi Nerima-ku Tokyo, 177-0041 Japan

Tel; 03-5910-7900 Fax; 03-5910-7880

E-mail; info@ntt-gp.com

URL; <http://www.ntt-gp.com>

Category:

- A1. Global Warming
- B1. Recyclability
- B4. Higher Quality
- B7. Usage of Recycled Material
- C5. Product Use, Maintenance and Repair

“Domturf” is unitized greening, made from recycled urethane foam, onto which turf is directly laid. Temperature-sensitive resin inside the urethane foam absorbs and discharges water depending on the temperature.

The foam is recycled from factories, and the internal resin retains rainwater or sprayed water and discharges it when outside air temperature reaches a preset temperature. Thus, the temperature-sensitive resin can reduce environmental load. In addition, “Domturf” uses turf grown without chemicals and soil made from sugarcane and other materials to ensure healthy turf.



Products/Model :
DOMTURF

Eco-products No.0419

Others

Surface treatment agent

Chrome-free surface treatment agent for aluminum wheels

Nippon Paint Co., Ltd.

2-1-2, Oyodokita, Kita-ku, Osaka-shi, Osaka 531-8511, Japan

Tel; 06-6455-9194 Fax;

E-mail;

URL; <http://www.nipponpaint.co.jp/inquiry/>

Category:

- A3. Hazardous Substance
- B5. Energy Saving
- C2. Material and Components Production

Surface treatment agent including chrome is conventionally used for aluminum wheel priming in order to maintain high anti-corrosion performance. We have developed an eco-friendly surface treatment agent without chrome. This agent realizes higher performance than conventional surface treatment agents with chrome and has already been widely used in production lines.



※Excerpt from the data of Annual Environmental Reports, Sustainable Reports, and so on.

Eco-products No.0420

Others

Soil for planter

"Orchid Base", the shrubbery-soil made from malt-feed

Asahi Breweries, Ltd.

23-1, Azumabashi 1-chome, Sumida-ku, Tokyo 130-8602 Japan

Tel; 03-5608-5195 Fax; 03-5608-5201

E-mail; ecopost@asahibeer.co.jp

URL; <http://www.asahibeer.co.jp/>

Category:

- A4. Waste
- B7. Usage of Recycled Material
- C1. Material Extraction

One of the waste materials evolved in the manufacturing process of the beer is malt-feed, which is mainly utilized as a feed of cattle. For the purpose of expanding the reuse of malt-feed, Asahi Ecology, Ltd. (Asahi Breweries, Ltd. group) has developed a new commodity "Orchid Base", which is the shrubbery-soil of ceramic grains. "Orchid Base" is made from malted-feed by a series of treatment: dryness -forming by press- baking. "Orchid Base" has characteristics of not containing heavy metal, but being rich in mineral component, so it is proper for the culture of sugar-rich tomato and that of plants such as orchid.



Products/Model :
Orchid Base

L-Lysineto for forage : to provide better dietary amino acid balance

Ajinomoto Co., Inc.

15-1, Kyobashi 1-chome, Chuo-ku, Tokyo 104-8315, Japan

Tel; 03-5250-8140 Fax; 03-5250-8270

E-mail; izuru_shinzato@ajinomoto.com

URL; <http://www.ajinomoto.com>

Category:

- A3. Hazardous Substance
- B4. Higher Quality
- B6. Environmental Purification
- C5. Product Use, Maintenance and Repair

Feeds for livestock animals are mainly composed of vegetable ingredients such as corn, wheat, and soybean meal. Most proteins in such vegetable ingredients do not necessarily have the optimal amino acid profile for body protein synthesis by animals. The insufficient supply of a certain amino acid may lead not only to inferior growth but also to increased excretion of nitrogen to the environment because of less efficient utilization of amino acids for protein synthesis and the subsequent enhancement in catabolism of amino acids. Supplementation of L-lysine, which is in general the 1st limiting amino acid in pigs and the 2nd limiting in chickens, can contribute to the reduction of nitrogen excretion from animals to the environment by improving dietary amino acid balance and consequently by improving amino acid utilization efficiency. In addition, because the usage of L-lysine in the feeds can sustain the ideal growth of animals with a less amount of feeds, it helps save the land area for feed crop production.



Products/Model :

aL-Lysine Monohydrochloride Feed Grade

Company List

A

A.L.M.T. TECH Inc.
<http://www.allied-material.co.jp/>

Advanced Automation Company, Yamatake Corporation
<http://www.yamatake.com>

AICHI STEEL CORPORATION
<http://www.aichi-steel.co.jp>

AIR WATER INC.
<http://www.awi.co.jp/>

Aisan Industry Co., Ltd.
<http://www.aisan-ind.co.jp/>

Ajinomoto Co., Inc.
<http://www.ajinomoto.com>

Alpine Electronics, Inc.
<http://www.alpine.com>

AMITA CORPORATION
<http://www.amita-net.co.jp/>

Anritsu Corporation
<http://www.anritsu.co.jp>

Anritsu Industrial Solutions Co., Ltd.
<http://www.anritsu.co.jp/J/Industry/>

APICA Co., Ltd.
<http://www.apica.co.jp/>

APPAX Co., Ltd.
<http://www.appax.com>

Asahi Breweries, Ltd.
<http://www.asahibeer.co.jp/>

Asahi Kasei Corporation
<http://www.asahi-kasei.co.jp/>

ASAHI KASEI CONSTRUCTION
 MATERIALS CORPORATION
<http://www.asahikasei-kenzai.com>

ASAHI KASEI FIBERS CORPORATION
<http://www.ak-bemberg.com>
<http://www.ak-fibers.jp>
<http://www.asahi-kasei.co.jp/eutec>
<http://www.bemliese.com>

B

Banana Paper Project
<http://www.bananaproject.com/jp/top/index.html>

Bando Chemical Industries Ltd.
<http://www.bando.co.jp>

BROTHER INDUSTRIES, LTD.
<http://www.brother.co.jp>

C

C-PRO Co., Ltd.
<http://www.cpro.jp/>

Calsonic Kansei Corporation
<http://www.calsonickansei.co.jp/>

Canon Inc.
<http://canon.jp/>

CASIO Computer Co., Ltd.
<http://www.casio.co.jp>

Central Research Institute of Electric Power
 Industry(CRIEPI)
<http://criepi.denken.or.jp>

CHIKUMA & Co., Ltd.
<http://www.chikuma.co.jp>

CHUBU ELECTRIC POWER CO., INC.
<http://www.chuden.co.jp/otoiawase/index.html>

Chugai Pharmaceutical Co., Ltd.
http://www.chugai-pharm.co.jp/hc/chugai_top.jsp

Citizen Watch Co., Ltd.
<http://www.c-e.co.jp/home.asp>
<http://www.citizen.co.jp>

Clarion Co., Ltd.
<http://www.clarion.co.jp>

Clean Maintenance Co., Ltd.
<http://www.air-cm.co.jp>

CombiWith Corporation
<http://www.combiwith.co.jp>

Cosmo Engineering Co., Ltd.
<http://www.cosmoeng.co.jp>

Cosmo Oil Co., Ltd.
<http://www.cosmo-oil.co.jp>

Cosmo Oil Lubricants Co., Ltd.
<http://www.cosmo-lube.co.jp>

Cycle Inc.
<http://www.z-cycle.co.jp/>

D

Dai Nippon Printing Co., Ltd.
<http://www.dnp.co.jp/>

Daicel Chemical Industries, Ltd.
<http://www.daicel.co.jp/celgreen/>
<http://www.daicel.co.jp/wsp/f-p-c.html>

DAIDO STEEL CO., LTD.
<http://www.daido.co.jp>

DAIHATSU MOTOR CO., LTD.
<http://www.daihatsu.co.jp>

Daiichi Pharmaceutical Co., Ltd.
<http://www.daiichipharm.co.jp/index2.html>

DAIKIN INDUSTRIES, LTD.
<http://www.daikin.co.jp>
<http://www.daikin.co.jp/kankyo/>

Dainippon Ink And Chemicals, Incorporated
<http://www.dic.co.jp/form.html>

Daiwa House Industry Co., Ltd.
<http://www.daiwahouse.co.jp/>

DENSO CORPORATION
<http://www.denso.co.jp>

DUPLO CORPORATION
<http://www.duplo.com>

E

Ebara Corporation
<http://www.ebara.co.jp>

Eizo Nanao Corporation
<http://www.eizo-nanao.com/>

ENTEC Co., Ltd.
<http://www.k-entec.co.jp>

F

FDK CORPORATION
<http://www.fdk.co.jp/>

Fuji Heavy Industries Ltd.
<http://www.fhi.co.jp/index.html>

Fuji Photo Film Co., Ltd.
<http://home.fujifilm.com/>

Fuji Xerox Co., Ltd.
<http://www.fujixerox.co.jp/>

Fujikura Ltd.
<http://www.fujikura.co.jp/>

Fujimak Corporation
<http://www.fujimak.co.jp/>

Fujisawa Pharmaceutical Co., Ltd.
<http://www.fujisawa.co.jp/>

Fujiseiki Machine Works Ltd.
<http://www.toshiba-machine.co.jp/fj/>

Fujitsu General Limited
<http://www.fujitsugeneral.co.jp/>

Fujitsu Limited
<http://jp.fujitsu.com/>

Fukutoku Corporation
<http://www.fukutoku.com>

The Furukawa Electric Co., Ltd.
<http://www.furukawa.co.jp>

G

Green Techno 21, Inc.
<http://www.green-21.com>

H

Hannan Electric Wire & Cable Co., Ltd.

Hazama Corporation
<http://www.hazama.co.jp>

HEIWA PAPER CO., LTD.
<http://www.paper-hsk.co.jp>

Hitachi Chemical Co., Ltd.
<http://www.hitachi-chem.co.jp>

Hitachi High-Technologies Corporation
<http://www.hitachi-hitec.com/index.html>

Hitachi Home & Life Solutions, Inc.
<http://www.hitachi-hl.com/>

Hitachi Information Systems, Ltd.
<http://www.hitachijoho.com/>

Hitachi Koki Co., Ltd.
<http://www.hitachi-koki.com>

Hitachi Maxell, Ltd.
<http://www.maxell.co.jp/environment/contact.html>

Hitachi Metals, Ltd.
<http://www.hitachi-metals.co.jp/>

Hitachi, Ltd., Digital Media Division
<http://www.hitachi.co.jp/index-j.html>

Honda Motor Co., Ltd.
<http://www.honda.co.jp/>

Hoya Corporation
<http://www.hoya.co.jp/japanese/index.cfm>

I

Idemitsu Engineering Co., Ltd.
<http://www.idemitsu.co.jp/en>

INAX Corporation
<http://inax.co.jp/>

Ishikawajima-Harima Heavy Industries Co., Ltd.
<http://www.ihl.co.jp/>

ISUZU MPTORS LIMITED
<http://www.isuzu.co.jp>

Itoki Co., Ltd.
<http://www.itoki.co.jp/>

J

Japan Polypropylene Corporation
<http://www.film-sheet.com/>

THE JAPAN STEEL WORKS, LTD.
<http://www.jsw.co.jp>

Japan Storage Battery Co., Ltd.
<http://www.nippondenchi.co.jp/npd/toi/toi.html>
JFE Engineering Corporation
<http://www.jfe-eng.co.jp/>
JFE Holdings, Inc.
<http://www.jfe-holdings.co.jp/environment/2003.html>
JFE Steel Corporation
<http://www.jfe-steel.co.jp>
JICHODO Co., Ltd.
<http://www.jichodo.co.jp>
Jit Co., Ltd.
<http://www.jit-c.co.jp>

K

K•E•K ASSOCIATES Co., Ltd.
<http://www.kek.co.jp>
KAJIMA CORPORATION
<http://www.kajima.co.jp/>
Kanebo, Ltd.
<http://www.kanebo.co.jp/index.htm>
Kansai Paint Co., Ltd.
<http://www.kansai.co.jp/mail/iken.html>
Kanto Denka Kogyo Co., Ltd.
<http://www.kantodenka.co.jp>
Kao Corporation
<http://chemical.kao.co.jp/e/>
Kawakami Sangyou Co., Ltd.
<http://www.putiputi.co.jp/>
KAWASAKI HEAVY INDUSTRIES, LTD.
<http://www.khi.co.jp/>
Keihin Corporation
<http://www.keihin-corp.co.jp/>
Kikkoman Corporation
<http://www.kikkoman.co.jp/>
KING JIM CO., LTD.
<http://www.kingjim.co.jp/>
KIRIN Brewery Company Limited
<http://www.kirin.co.jp>
KITANIHON ELECTRIC CABLE CO., LTD.
<http://www.kitaniti-td.co.jp>
KOBE STEEL, LTD.
<http://www.kobelco.co.jp/>
Koito Manufacturing Co., Ltd.
http://www.koito.co.jp/f_index.html
KOKUYO Co., Ltd.
<http://www.kokuyo.co.jp>
Komatsu Ltd.
<http://www.komatsu.com/>
Konica Minolta Business Technologies, Inc.
<http://konicaminolta.jp>
Kose Corporation
http://www.kose.co.jp/office/form_m.html

Koyo Seiko Co., Ltd.
<http://www.koyo-seiko.co.jp/japanese/>
Koyo Sangyo, Co., Ltd.
<http://www.koyoweb.com/>
KUBOTA Corporation
<http://www.kubota.co.jp/>
Kumagai Gumi Co., Ltd.
<http://www.kumagaigumi.co.jp/main.html>
Kuraray Chemical Co., Ltd.
<http://www.kuraray-c.co.jp>
Kyocera Corporation
<http://www.kyocera.co.jp>
Kyodo Printing Co., Ltd.
http://www.toppan.co.jp/index_f.html
Kyowa Hakko Chemical Co., Ltd.
<http://www.kyowachemical.co.jp>

L

LINTEC Corporation
<http://www.lintec.co.jp>
LION OFFICE PRODUCTS CORPORATION
<http://www.lion-jimuki.co.jp>
Logitec Corporation
<http://www.logitec.co.jp/>

M

Mabuchi Motor Co., Ltd.
<http://www.mabuchi-motor.co.jp/>
Mammoth Co., Ltd. Head Office
<http://www.mammoth-g.jp>
Marujyu Kasei Co., Ltd.
<http://www.misnon.com>
Matsushita Ecology Systems Co., Ltd.
<http://panasonic.co.jp/mesc>
Matsushita Electric Industrial Co., Ltd.
<http://national.jp/>
<http://panasonic.co.jp/>
Matsushita Electric Works, Ltd.
<http://www.mew.co.jp>
MATUYA INDUSTRY CORPORATION
<http://www.d2.dion.ne.jp/~matuya/>
Mazda Morte Corporation
<http://customer.mazda.co.jp/inquiry.html>
Misawa Homes Co., Ltd.
<http://www.misawa.co.jp/>
Mitsuba Corporation
<http://www.mitsuba.co.jp/>
Mitsubishi Cable Industries, Ltd.
<http://www.mitsubishi-cable.co.jp>
Mitsubishi Chemical Corp.
<http://www.m-kagaku.co.jp/index.htm>

MITSUBISHI CHEMICAL
 FUNCTIONAL PRODUCTS, INC.
<http://www.yes-mks.co.jp>
 Mitsubishi Electric Corporation
<http://www.mitsubishielectric.co.jp/>
 MITSUBISHI ELECTRIC LIGHTING CORPORATION
<http://www.mitsubishielectric.co.jp/group/mlf/>
 MITSUBISHI ELECTRIC OSRAM Ltd.
<http://www.mol-oml.co.jp>
 Mitsubishi Heavy Industries, Ltd.
<http://www.mhi.co.jp>
 Mitsubishi Materials C.M.I. Corporation

 Mitsubishi Materials Corporation
<http://www.mmc.co.jp>
 MITSUBISHI PAPER MILLS LIMITED
<http://www.e-mpm.com/products/>
 MITSUBISHI PENCIL Co., Ltd.
<http://www.mpuni.co.jp>
 MITSUBISHI PLASTICS, INC.
<http://www.mpi.co.jp>
 Mitsubishi Rayon Co., Ltd.
<http://www.mrc.co.jp/>
 Mitsubishi Rayon Engineering Co., Ltd.
<http://www.sterapore.com/>
 Mitsui Chemicals Corporation
<http://www.mitsui-chem.co.jp/index.htm>
 Mitsui Mining Materials Company Limited
<http://www.mitsui-mining.co.jp/>
 Miyoshi Oil & Fat Co., Ltd.
<http://www.miyoshi-yushi.co.jp>
 MIZUNO CORPORATION
<http://www.mizuno.co.jp>
 Murata Manufacturing Company Ltd.
<http://www.murata.co.jp/>

N

Nagase & Co., Ltd.
<http://www.nagase-direct.co.jp/pluswood/>
 Nagashima Special Paint Co., Ltd.
<http://www.nspg.co.jp/>
 Nagoya Railroad Co., Ltd.
<http://www.meitetsu.co.jp>
 NEC Corporation
<http://www.nec.com/>
 NEC Personal Products, Ltd.
<http://www.necp.co.jp/>
 NEC TOKIN Corporation
<http://www.nec-tokin.com/>
 Neomax Co., Ltd.
<http://www.neomax.co.jp/index.html>
 NGK INSULATORS, LTD.
<http://www.ngk.co.jp/>

Ngk Spark Plug Co., Ltd.
<http://www.ngkntk.co.jp/menu.html>
 NHK Spring Co., Ltd.
<http://www.nhkspg.co.jp/>
 Nichicon Corporation
<http://www.nichicon-us.com/index.html>
 NIKON CORPORATION
<http://www.nikon.co.jp>
 Nippon Electric Glass Co., Ltd.
<http://www.neg.co.jp>
 Nippon Oil Corporation
<http://www.eneos.co.jp/>
 Nippon Paint Co., Ltd.
<http://www.nipponpaint.co.jp/inquiry/>
 Nippon Paper Industries Co., Ltd.
<http://www.npaper.co.jp>
 Nippon Sanso Corporation
<http://www.sanso.co.jp>
 Nippon Senjoki K.K.
<http://www.n-sen.com/>
 Nippon Sheet Glass Co., Ltd.
<http://www.nsg.co.jp>
 Nippon Steel Corporation
<http://www0.nsc.co.jp/kankyoku/index.html>
 NIPPON TELEGRAPH AND TELEPHONE WEST CORPORATION
<http://www.ntt.west.co.jp>
 Nishimatsu Construction Co., Ltd.
<http://www.nishimatsu.co.jp/eng/>
 Nishiyodo Corporation
<http://www.nishiyodo.co.jp/>
 Nisshin Steel Co., Ltd.
<http://www.nisshin-steel.co.jp/>
 NITTO DENKO CORPORATION
<http://www.nitto.co.jp>
 NSK Ltd.
<http://www.nsk.com>
 NTN Corporation
<http://www.ntn.co.jp/>
 NTT Advanced Technology Corporation
<http://www.keytech.ntt-at.co.jp/>
<http://www.ntt-me.co.jp/junkan/kankyo>
 NTT Neomeit Hokuriku Co., Ltd.
<http://www.hkr.ntt-neo.com>
 NTT GP-ECO Communication, Inc.
<http://www.ntt-gp.com>

O

Obayashi Corporation
 Obayashi Corporation, Technical Research Institute
<http://www.obayashi.co.jp/>
 Oji Fiber Co., Ltd.
<http://www.ojifiber.co.jp>

Oji Paper Co., Ltd.
<http://www.ojipaper.co.jp>
 Okamura Corporation
<http://www.okamura.co.jp>
 OKAWARA MFG. CO., LTD.
<http://www.okawara.co.jp>
 Oki Electric Industry Co., Ltd.
<http://www.oki.com/jp/>
 Osaka Gas Co., Ltd.
<http://www.osakagas.co.jp/index.htm>
 Otsuka Corporation
<http://www.otsuka-shokai.co.jp/eco/2003/index.html>

P

Panasonic Communications Co., Ltd.
<http://panasonic.co.jp/pcc/index.html>
 Penta-Ocean Construction Co., Ltd.
http://www.st-egg.com/form_penta_ask/formmail.asp
 PIONEER CORPORATION
<http://www.pioneer.co.jp>
 Platinum Pen Co., Ltd.

 PLUS Corporation
<http://bungu.plus.co.jp>

R

RENGO CO., LTD. CENTRAL LABORATORY
<http://www.rengo.co.jp/index.htm>
 Ricoh Company, Ltd.
<http://ricoh.co.jp/ecology>
<http://www.ricoh.co.jp/ecology/>
 Rinnai Corporation
<http://www.rinnai.co.jp/>
 Rohm Co., Ltd.
<http://www.rohm.co.jp/index-j.html>

S

Sagawa Express Co., Ltd.
<http://www.sagawa-exp.co.jp/>
 SAIBU GAS CO., LTD.
<http://www.saibugas.co.jp>
 Sakata Seed Corporation
<http://www.sakataseed.co.jp>
 Sanden Corporation
<http://www.sanden.co.jp>
 SANKEI Co., Ltd.
<http://www.isu-sankei.co.jp/>
 Sankyo Aluminium Industry Co., Ltd.
<http://www.sankyoalumi.co.jp/>

Sankyo Co., Ltd.
<http://www.sankyo.co.jp/>
 SANYO Air Conditioner Co., Ltd.
<http://www.sanyo.co.jp/kuucho/>
 Sanyo Chemical Industries, Ltd.
<http://www.sanyo-chemical.co.jp/top/jpn/index.htm>
 SANYO Electric Co., Ltd.
<http://www.sanyo.co.jp/>
 SARAYA CO., LTD.
<http://www.saraya.com>
 SEIKO EPSON CORPORATION
<http://www.epson.co.jp>
 Seiwa Co., Ltd.
<http://www.pentakeep.com>
 Sekisui Chemical Co., Ltd. Housing Company
<http://www.sekisuiheim.com>
 Sekisui Chemical Co., Ltd. Housing Company Urban
 Infrastructure & Environmental Products Headquarters
<http://www.sekisui.co.jp/>
 SEKONIC CORPORATION
<http://www.sekonic.co.jp>
 Senju Metal Industry Co., Ltd.
<http://www.senju-m.co.jp/>
 SHARP CORPORATION
<http://www.sharp.co.jp>
 Shimadzu Corporation
<http://www.shimadzu.co.jp>
 SHIMIZU CORPORATION
<http://www.shimz.co.jp/>
 Shin Nippon Core Co., Ltd.
<http://www.sncore.jp>
 Shinagawa Chemical Industry Co., Ltd.
<http://www.shinagawa-chem.co.jp>
 Shindengen Electric Manufacturing Co., Ltd.
http://www.shindengen.co.jp/top_j/index.html
 Shin-Etsu Chemical Co., Ltd.
<http://www.shinetsu.co.jp>
 SHINKO ELECTRIC INDUSTRIES CO., LTD.
<http://www.shinko.co.jp>
 Shionogi & Co., Ltd.
<http://www.shionogi.co.jp/>
 SHISEIDO CO., LTD.
<http://www.shiseido.co.jp>
 Showa Denko K.K.
<http://www.sdk.co.jp>
 Showa Electric Wire & Cable Co., Ltd.
<http://www.swcc.co.jp>
 Showa Shell Sekiyu K.K.
<http://www.showa-shell.co.jp>
 Shinwa Wood Industrial Co., Ltd.
<http://www.shinwa-m.com>
 Sony Corporation
<http://www.sony.net>

Sumitomo Bakelite Co., Ltd.
<http://www.sumibe.co.jp/index.html>

Sumitomo Chemical Co., Ltd.
<http://www.sumitomo-chem.co.jp/>

Sumitomo Electric Fine Polymer, Inc.
<http://www.sei-sfp.co.jp>

Sumitomo Electric Flat Components, Inc.
<http://www.sei.co.jp/ewp/J/>

Sumitomo Electric Hardmetal Corp.
<http://www.sumitool.com/>

Sumitomo Electric Industries, Ltd.
<http://www.sei.co.jp>

Sumitomo Heavy Industries, Ltd.
<http://www.shi.co.jp/>

Sumitomo Metal Industries, Ltd.
<http://www.sumitomometals.co.jp>

Sumitomo Metal Mining Co., Ltd.
<http://www.smm.co.jp/main.html>

Sumitomo Osaka Cement Co., Ltd.
<http://www.soc.co.jp/index.html>

Sumitomo Rubber Industries, Ltd.
<http://www.srigroup.co.jp/ecopedia/index.html>

Sumitomo Wiring Systems, Ltd.
<http://www.sws.co.jp/>

Suntory Limited
<http://www.suntory.co.jp/index.html>

T

Taiheiyo Cement Corporation
<http://www.taiheiyo-cement.co.jp>

Taisei Corporation
<http://www.taisei.co.jp>

Taisho Pharmaceutical Co., Ltd.
<http://www.taisho.co.jp>

Taiyo Yuden Co., Ltd.
<http://www.ty-top.com>

TDK Corporation
<http://www.tdk.co.jp>

Teijin Limited
<http://www.teijin-eco.com>

Teramoto Corporation Ltd.
<http://www.teramoto.co.jp/>

Terumo Corporation
<http://www.terumo.co.jp>

Toda Corporation
<http://www.toda.co.jp>

Toho Gas Co., Ltd.
<http://www.tohogas.co.jp/work/kankyo/>

Tohoku Electric Power Engineering & Construction Co., Inc.
<http://www.tohatu.co.jp/>

Tokai Rika Co., Ltd.
<http://www.tokai-rika.co.jp/>

Tokico Ltd.
<http://www.tokico.co.jp/>

The Tokio Marine and Fire Insurance Co., Ltd.
<http://www.tokiomarine.co.jp>

Tokyo Electric Power Company
<http://www.tepco.co.jp>

Tokyo Electric Power Environmental Engineering Co. Inc.
<http://www.tee-kk.co.jp>

Tokyo Gas Co., Ltd.
<http://www.tokyo-gas.co.jp/>

Tombow Pencil Co., Ltd.
<http://www.tombow.com>

Toppan Printing Co., Ltd.
http://www.toppan.co.jp/index_n.html
<http://www.kyodoprinting.co.jp/kphone/welcome.html>

Toray Industries, Inc.
<http://www.toray.co.jp>
<http://www.waterless-print.com/index.php>

TOSHIBA CARRIER AIR CONDITIONING
 SYSTEMS CORPORATION
<http://www.toshiba-carrier.co.jp/>

TOSHIBA CARRIER CORPORATION
<http://www.toshiba-carrier.co.jp>

TOSHIBA CONSUMER MARKETING CORPORATION
<http://www.toshiba.co.jp/tcm/>

TOSHIBA ELECTRON TUBES & DEVICES CO., LTD.
http://www.toshiba-tetd.co.jp/tetd/qcinfo/ele_kankyo_j.htm

TOSHIBA HOMELIGHTING CO., LTD.
<http://www.tlt.co.jp/tlt/akari/homehome/homehome.htm>

TOSHIBA LIGHTING &
 TECHNOLOGY CORPORATION
<http://www.tlt.co.jp/>

Toshiba Machine Co., Ltd.
<http://www.toshiba-machine.co.jp>

TOSHIBA MEDICAL SYSTEMS CORPORATION
<http://www.toshiba-medical.co.jp/tmd/>

TOSHIBA TEC CORPORATION
<http://www.toshibatec.co.jp/>

Tosoh Corporation
<http://www.tosoh.co.jp>

TOSTEM CORPORATION
<http://www.tostem.co.jp/>

Total Clean Inc.
<http://www.total-clean.co.jp>

TOTO Ltd.
<http://www.toto.co.jp>

TOYO ENGINEERING WORKS
<http://www.h.toyo-ew.co.jp/>

Toyo Glass Co., Ltd.
<http://www.toyo-glass.co.jp/index.html>

TOYO INK MFG. CO., LTD.
<http://www.toyoink.co.jp>

Toyo Kohan Company, Limited
<http://www.toyokohan.co.jp/>

TOYO RICE CLEANING MACHINE CO., LTD.

<http://www.toyoseimaiki.co.jp>

Toyo Seikan Group

<http://www.toyo-seikan.co.jp/>

Toyo Tire & Rubber Co., Ltd.

<http://www.toyo-rubber.co.jp/>

Toyobo Co., Ltd.

<http://www.toyobo.co.jp>

Toyota Motor Corporation

<http://www.toyota.co.jp>

U

Ube Industries, Ltd.

<http://www.ube-ind.co.jp>

Unicharm Corporation

<http://www.unicharm.co.jp>

Unitika Ltd.

<http://www.unitika.co.jp/business/home.htm>

V

Victor Company of Japan, Limited

<http://www.victor.co.jp/>

Y

YAGI CORPORATION

<http://www.yagi.co.jp/>

Yamaha Corporation

<http://www.yamaha.co.jp>

YAMAHA MOTOR CO., LTD.

<http://www.yamaha-motor.co.jp/>

Yamanouchi Pharmaceutical Co., Ltd.

<http://www.yamanouchi.com/jp/>

Yamatake Corporation

<http://jp.yamatake.com>

Yokogawa Electric Corporation

<http://www.yokogawa.com/>,

<http://www.yokogawa.co.jp>

The Yokohama Rubber Co., Ltd.

<http://www.yrc-pressroom.jp/env/>

YUASA corporation

<http://www.yuasa-jpn.co.jp/menuhp.html>

Z

ZEBRA Co., Ltd.

<http://www.zebra.co.jp>

ECO-PRODUCTS DIRECTORY 2004

For Sustainable Production & Consumption

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