# Environmental & Social Report 2011

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SUMITOMO BAKELITE CO., LTD.

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### **Editorial Policy**

The content of this report was discussed and determined from a corporate social responsibility (CSR) perspective by the Company's Responsible Care Committee in March 2010. Based on consideration of feedback we have received and societal trends, we have determined that the importance of information disclosure is increasing, particularly with respect to information related to societal issues. Accordingly, we have decided to prepare our Environmental & Social Report, beginning from the 2011 edition, in accordance with version 3 of the Sustainability Reporting Guidelines (G3) of the Global Reporting Initiative (GRI).

Regarding the preparation of the report, while giving due attention to Universal Design principles, we have striven to prepare an easy-to-understand, easy-to-read style and format for readers, and since 2001, we have included an independent assurance report to raise the report's credibility.

The indicators that are externally assured are marked with the 😡 mark. This report can be obtained in the PDF from our website (http://www. sumibe.co.jp).

The web version includes 21 site reports that are not included in the printed version.

#### Period

In principle, the report covers fiscal 2010 (April 2010 through March 2011). In cases when the coverage period is different from this period, the coverage periods are explained individually.

Some activities mentioned in the report include those undertaken in fiscal 2011

#### Published

November 2011 (The next issue will be published in September 2012.)

#### Boundary

In principle, this report covers Sumitomo Bakelite and its consolidated subsidiaries. Regarding environmental and occupational safety and health indicators, the boundary is primarily limited to manufacturing facilities and companies as shown below. Based on consideration of the materiality of environmental issues, we have added U.S.-based Promerus LLC (research facility) to the boundary (Promerus-related data has been included retroactively to figures beginning from fiscal 2005 figures.).

Along with the revision of our Medium- and Long-Term Environmental Impact Reduction Targets, which employ fiscal 2005 as the base year, we have recompiled some figures that we stated in our previous reports so that the year-on-year comparability of figures is ensured. For example, figures for fiscal 2005 and onwards have been recompiled to include data for companies that have been acquired subsequent to fiscal 2005. Because of these measures, some figures in this year's report may not correspond exactly to figures in previously published reports.

#### (Japan)

### Sumitomo Bakelite\*1

Head Office and marketing offices, Amagasaki Plant, Kanuma Plant, Utsunomiya Plant, Shizuoka Plant, Fundamental Research Laboratory\*2, Advanced Technologies R&D Laboratory\*2

Akita Sumitomo Bakelite, S.B. Techno Plastics, Hokkai Taiyo Plastic, Yamaroku Kasei Industry, Kyushu Sumitomo Bakelite, Tsutsunaka Kosan\*<sup>3</sup>, S.B. Research Osaka Center\*<sup>3</sup>, S.B. Sheet Waterproof Systems.

- \*1. Sumitomo Bakelite's Nara Plant became the Nara Plant of S.B. Sheet Waterproof Systems as of July 2011
- \*2. Plans call for closing the Fundamental Research Laboratory and integrating the operations of \*2. Plans call for closing the Fundamental Research Laboratory and integrating the operations of that laboratory with those of the Advanced Technologies R&D Laboratory (formerly the Kobe Fundamental Research Laboratory) as of September 2011.
   \*3. Because Tsutsunaka Kosan and the S.B. Research Osaka Center are located within the same site, they are treated as a single business site in this report.
   Note: Data for each business site includes data for consolidated companies with presences at those
- sites.

#### (Overseas)

Sumitomo Bakelite Singapore, Sumicarrier Singapore, SumiDurez Singapore, SNC Industrial Laminates, Indopherin Jaya, SBP Indonesia, Sumitomo Bakelite (Thailand), Sumitomo Bakelite Vietnam, Sumitomo Bakelite (Suzhou), BASEC Hong Kong, Sumitomo Bakelite (Shanghai), Sumitomo Bakelite Macau, Sumitomo Bakelite (Nantong), Sumitomo Bakelite (Taiwan), Durez, Durez Canada, Sumitomo Bakelite North America, Promerus, Sumitomo Bakelite Europe, Sumitomo Bakelite Europe (Barcelona), Vyncolit

In this report, the name of the companies may be represented in simplified forms by omitting "Company, Limited", "Inc.", and/or other legal entity identifications. For example, "Sumitomo Bakelite Company, Limited" may be represented as "Sumitomo Bakelite Co., Ltd.", "Sumitomo Bakelite", or "the Company".

## Message from the President



First of all, I would like to offer my prayers for the numerous people who had lost their lives, as well as my heartfelt sympathy for the many other people who were greatly affected by the Great East Japan Earthquake that hit on March 11, 2011.

A number of Sumitomo Bakelite Group facilities, too, suffered various degrees of damages at the time of the disaster, which included the Utsunomiya Plant, the Kanuma Plant, and the Akita Plant (Akita Sumitomo Bakelite). In particular, the damage at the Utsunomiya Plant was relatively serious. However, we were able to sustain product delivery to our customers by working closely with our business associates. As a result, we have prevented major disruption to their businesses.

This year marks the 100th anniversary of the birth of Japan's plastics industry. Dr. Leo Baekeland developed phenolic resin in the United States in 1907, and he named that first synthetic resin "Bakelite". In 1911, mediated by Dr. Jokichi Takamine, the rights to execute the patents of phenolic resin were granted, and Sankyo Company (currently, Daiichi Sankyo Co., Ltd.) began manufacturing phenolic resin at its plant in the Shinagawa district in Tokyo. This marked the beginning of Japan's plastics industry and also entrenched the roots of Sumitomo Bakelite's business as a "Pioneer in Plastics."

Coincidentally, this 100th anniversary year of Japan's plastics industry is also a year in which Japan encountered an unprecedented natural disaster.

In consideration of various pressing issues such as people in the disaster-hit region, people who rendered assistance during the postdisaster recovery, the introduction of plastics into Japan by Dr. Takamine a century ago, and our valued customers, we, nevertheless, shall maintain a strong commitment to collectively promoting measures for quick recovery and restoration and at the same time achieve remarkable progress in our business.

## Sumitomo Bakelite is managing its business operations to make continuing contributions to its growth and to the natural environment and society as well as to be a company managed in a manner that inspires all its stakeholders with peace of mind, confidence, and great expectations.

Our Business Philosophy is "We value trust and maintain steadiness. Based on this, we strive through our business activities to make contributions to social progress and improvements to the quality of life worldwide." In addition, based on this philosophy, Sumitomo Bakelite management will uphold the value of making "excellent contributions to the environment and the society".

Our business operations will continue to be invigorated in accordance with Sumitomo's ceaseless business spirit with which we offer assurance, safety, and reliability to the world community and society. At the same time, all Sumitomo Bakelite employees have pledged their commitments to this business spirit along with appropriate internal control processes to further enhance our corporate governance.

Excellent corporate management requires a fundamental focus on quality, productivity, customer satisfaction-oriented service, and innovation. For the past eight years, we have spared no effort in implementing the Sumitomo Bakelite Production System (SBPS) which is based on the Toyota Production System—for quality improvement, production innovation, shortening of lead time, etc. In addition, with concerted efforts, we make business solution proposals to customers, we provide customers with functional efficient and effective products and a combination of existing products and new products with new technologies, and, also, we strive to grasp and meet customers' real needs in a timely manner. We want to leverage our understanding of customer perspective by focusing on marketing and manufacturing operations with the concerted collaboration of marketing, R&D, production, and other supporting business units.

In addition, with respect to environmental impact-related issues, such as greenhouse gas emissions, material losses, emissions of PRTR chemical substances based on the Japan Chemical Industry Association, etc.—we have set clear targets to be attained by year 2020 by progressively implementing appropriate measures and decreasing the overall environmental impact caused by our operations.

#### We are fostering the development of "human assets."

In 2007, the SB School, as an in-house educational unit, was set up with the aim of developing human assets that have a good understanding of Sumitomo Bakelite management policy and work in accordance with Sumitomo Bakelite traditions and, at the same time, to acquire practical know-how with a solid foundation of experience and selfdiscipline to manage the Company for sustainable business growth. In addition, we have launched an overseas trainee system in this fiscal year. Progressively, we are expanding and strengthening the SB School. Also, through continuously implementing SBPS activities, we are seeking to foster the development of employees who are capable of overcoming difficult challenges and who are talented individuals. Through our overseas trainee system, we are striving to foster the development of human resources suitable for a global business enterprise.

In closing, with reference to the opinions expressed by our stakeholders, Sumitomo Bakelite shall endeavor to be "a company that provides happiness", "a company where all employees enjoy working", and "a company that is welcomed by the society". In addition, aiming to fully carry out our responsibilities as a member of the chemical industry, Sumitomo Bakelite shall actively support the Responsible Care Global Charter.

J. Abjashi

September 2011 Shigeru Hayashi, President

## **Corporate Data**

#### Name

Sumitomo Bakelite Co., Ltd.

### **Head Office**

Tennoz Parkside Building, 2-5-8 Higashi-Shinagawa, Shinagawa-ku, Tokyo 140-0002, Japan

### President

Shigeru Hayashi

#### Established

January 25, 1932

Capital (As of March 31, 2011)

¥37.1 billion

Number of Shareholders (As of March 31, 2011)

18,097

## **Stock Listings**

Tokyo Stock Exchange, First Section

Osaka Securities Exchange, First Section

### Number of Employees (As of March 31, 2011)

2,313 (non-consolidated)

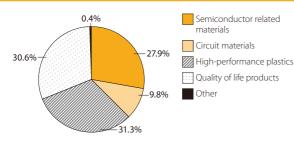
7,724 (consolidated)

#### Net Sales (Fiscal 2010)

¥104.8 billion (non-consolidated)

¥191.0 billion (consolidated)

#### Fiscal 2010 Net Sales by Division (Consolidated)



#### **Major Products by Division**

#### Semiconductor and display materials

Epoxy resin molding compounds for semiconductor packaging Photosensitive wafer coating resins Liquid resin for semiconductors Carrier tape for semiconductor surface mounting Adhesive tape for semiconductor chips Semiconductor materials for semiconductor packages

#### Materials for circuitry components

Epoxy resin copper-clad laminates Phenolic resin copper-clad laminates Flexible printed circuits

#### **High-performance plastics**

Phenolic resin molding compounds Industrial phenolic resins Precision molded products

### **Quality of life products**

Medical devices

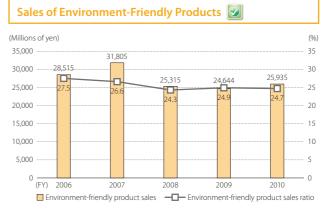
Vinyl resin sheets and multilayer sheets

Melamine resin decorative laminates and fireproof decorative board

Polycarbonate resin boards

Vinyl resin boards

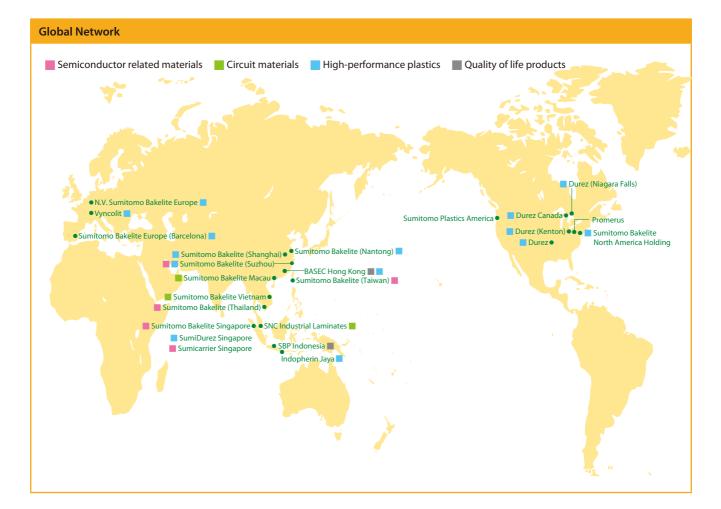
Waterproofing construction and design contractor

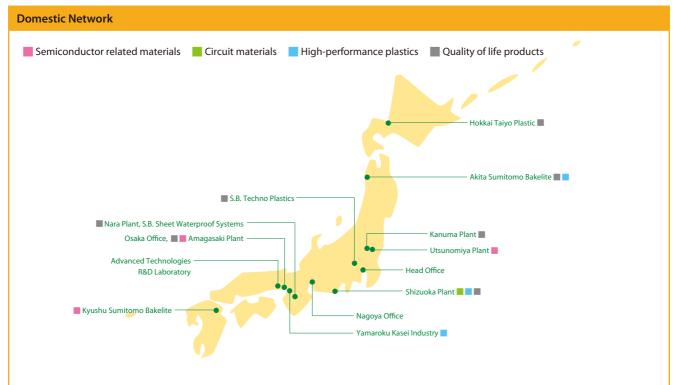


Note: The boundary of the data is Sumitomo Bakelite (non-consolidated).

## **Group Companies**

The Sumitomo Bakelite Group has developed its operations in 13 countries and regions, including Japan.





## Sumitomo Bakelite Group Products Found Nearby

Our products are used in diverse things that play important roles in everyone's lives.



Information and Communications Materials

High-Performance Plastics



Quality of Life (Daily Life/Medical)

### Waterproofing Sheet & System (SUNLOID® DN System)



The "SUNLOID® DN System" products include highly durable PVC sheets manufactured using a mechanical fixation method first introduced in Japan in 1974.



## **Epoxy Resin Molding Compounds for** Encapsulation of Semiconductor Devices (SUMIKON® EME)



The G700, G 600, and 500 series lines of SUMIKON® EME products conform to global environmental standards and do not contain halogen-based flame retardant.

#### Wafer Coating Resin (SUMIRESIN EXCEL® CRC)



3

Employing an aqueous alkali development process rather than solvents, CRC-8000 series products are used for semiconductor memory applications.

#### Pastes for Die Bonding Δ (SUMIRESIN EXCEL® CRM)



In addition to being well suited for use with semiconductor packages that are compatible with lead-free solder, CRM-1790 thermally conductive paste is used in place of solder.

#### Cover (Carrier) Tapes for Mounting Semiconductors/Electronic Components (SUMILITE® CSL)



These tapes are marketed for transporting semiconductors and electronic components to the locations of mounting processes. Sumitomo Bakelite is developing halogen-free versions that have little environmental impact.

#### Phenol Resin Adhesive for Plywood 6 Production (Yuroid)



PL-9000 series environment-friendly phenolic adhesives are nice to the environment and to wood. They harden more rapidly at lower temperatures and emit relatively low amounts of formaldehyde.

#### Polycarbonate Sheets and Films (SUNLOID PC\*)



SUNLOID PC® offers outstanding impact resistance, transparency, and resistance to heat and cold. It has a wide range of applications in fields ranging from architecture to electric equipment.

#### **Tire-Reinforcement Material** 8 (SUMILITERESIN® PR)



This product is blended with the filler and rubber to stiffen the parts of tires that require stiffness.



#### Multilayer Films for Food Packaging 15 (SUMILITE® CEL)



These are flexible multi-layer composite films that can be used for vacuum packaging, gas packaging, skin packaging, and various other kinds of packaging.

#### Pharmaceutical Products Packing 16 Materials (Materials for PTP) (SUMILITE® VSS)



Press-through-packs (PTPs) and other blister film packaging enable pharmaceuticals to be delivered to users with safety and confidence. It is helping maintain the quality of a wide range of drugs that require careful attention to sanitation and safety.

#### **Biotechnology-Related Products** 17 (S-BIO®)



S-BIO® kits and chips have helped improve biological sample testing and analysis processes with respect to the downsizing of equipment, the acceleration of work processes, and the reduction of waste products.





SUMILON products are plastic labware items that are indispensable for biological research. Easy to seal and made of a single uniform material, these products lighten the environmental impact of research.

#### **Medical and Therapeutic Devices** 19 (sumius®)



Products marketed under the sumius® brand help provide safe, trustworthy, and reliable medical therapy that supports the health and welfare of each of us.

#### **Acrylic Light Guide Sheets** (SUNLOID® LUMIKING)



20

SUNLOID® LUMIKING light guide sheets offer highly efficient luminescent efficiency. Because these plates require little energy to provide a high degree of surface luminance, they are helping reduce environmental impact.

#### **Melamine-Faced Decorative Laminates** 21 (DECOLA®)



DECOLA® melamine-faced decorative laminates are available in a broad array of dimensions and colors so they can be used in a wide variety of applications, particularly those related to the definition of spaces in public and medical facilities.

### **Epoxy Coating Powder for Electronic** Components (SUMILITERESIN® ECP)



The Company's epoxy coatings powder are used as insulating films for such electronic components as ceramic capacitors and varistors.

#### **Copper-Clad Laminates** (SUMILITE® PLC, ELC, ALC)



Ranging from phenolic paper materials to glass-epoxy materials for high-count multilayer PWB, Sumitomo Bakelite provides a halogen-free product lineup. Our environment-friendly laminates are compatible with lead-free soldering.

**Pulleys and Disk Brake Pistons** (SUMIKON® PM Phenolic Resin)



For auxiliary engine parts and brake components that require high levels of heat resistance and strength as well as outstanding chemical resistance, SUMIKON® PM phenolic resin molding compounds are employed.

#### Flexible Printed Circuit Boards (SUMILITE® TFP)



Sumitomo Bakelite offers environmentfriendly flexible printed circuit boards (PCBs) free of halogen and lead compounds as well as flexible PCBs that are used in mobile phones and products in a broad range of other fields.

#### Semiconductor Package Substrate 13 Materials (SUMILITE LaZ<sup>®</sup>)



Offering a low coefficient of thermal expansion, a high level of heat resis-tance, and consequently excellent dimensional stability characteristics, SUMILITE L $\alpha$ Z<sup>®</sup> is the halogen-free, non-lead-solder-compatible substrate material most appropriate for semiconductor packag-

es incorporated in leading-edge mobile equipment.

#### **Freshness Preserving Films** 14 (P-Plus®)



By restraining the respiration rate and metabolism of fruits and vegetables, freshness preserving films help reduce fresh produce spoilage losses during distribution and storage

## **100 Years of Japanese Plastics Manufacturing**

The year 2011 marks the 100th anniversary of the inauguration of plastics manufacturing in Japan. Aiming to extend and magnify the achievements of its illustrious predecessors, Sumitomo Bakelite is developing its operations while constantly considering the optimal shape of the Japanese plastics manufacturing industry of the future.

Inception of the World's Plastics Industry	Today, we all use many kinds of plastics in our daily lives. More than a century ago, in 1907, Dr. L.H. Baekeland, a U.S. citizen of Belgian descent, invented phenolic resin, the world's first plastic. Dr. Baekeland named this plastic "Bakelite."	Dr. L.H. Baekeland
Inception of Japan's Plastics Industry	In 1911, mediated by Dr. Jokichi Takamine, a close friend of Dr. Baekeland, the rights to execute the patents of phenolic resin in Japan were granted to Sankyo Co., Ltd. (currently, Daiichi Sankyo Co., Ltd.), which began trial production. That was the inception of Japan's plastics industry.	Dr. Jokichi Takamine
A Pioneer in Plastics	Following this achievement of Dr. Baekeland and Dr. Takamine, Nippon Bakelite Co., Ltd. (the predecessor of our Company) was founded in 1932, to handle the phe- nolic resin business of Sankyo. In 1955, Nippon Bakelite merged with Sumitomo Synthetic Resin Industries, Ltd., to form Sumitomo Bakelite.	Sankyo's Mukojima Plant late in the Taisho Era (this plant later became Sumitomo Bakelite's Mukojima Plant)
Progress in Plastics and Sumitomo Bakelite's Operations	After the 1907 development of phenolic resins, many other with vinyl chloride resin, a series of other plastics were creat many others. Rather than restricting itself to phenolic resin took businesses in numerous other kinds of plastics so the such products as high-performance molding materials as w History of Plastics Beginning with Phenolic 1907 Phenolics 1931 Vinyl chloride 1938 Polyethy 1941 Nylon 1949	ited, including polyethylene, nylon, and s, the Sumitomo Bakelite Group under- nat it could provide its customers with vell as plastic films and sheets. enolic Resins

### **Celebration of 100th Anniversary of Plastics**

As a pioneer in plastics in Japan, Sumitomo Bakelite has taken various initiatives to further expand the scope of plastic businesses. Having created a new logo mark to highlight the 100th anniversary of plastics in Japan, we are planning to present an exhibition on the past, present, and future of plastics at the Science Museum, in Tokyo, from December 21 through 25, 2011.



**Pioneer in Plastics** 

## **100 Years of Plastics Roundtable Discussion**

Participants discussed what Sumitomo Bakelite—as a pioneer in plastics—should do going forward.

This year marks the 100th anniversary of the plastics industry in Japan. Going forward, Sumitomo Bakelite must continue playing its role as a pioneer in plastics by taking initiatives, such as in relation to environmental protection and contributions to society.

Five of the Company's staff had a lively discussion about Sumitomo Bakelite's future.



#### **Profiles of Participants**

#### Films & Sheets Research Laboratory

Yohei Nakashima Responsibilities: Development of high-performance multi-layer films

#### Automotive Products Development Laboratory

Junji Imai Responsibilities: Development of phenolic resins for use in such applications as friction materials for automotive clutch facings

## **Electronic Device Materials Laboratory**

Tomohiro Kagimoto Responsibilities: New interconnect materials project and Solution Development Department

#### Automotive Products Division/High-Performance Plastic Products Business Unit

Yasushi Yoshida Responsibilities: Marketing of automotive products related to such items as tires, brakes, and clutches

## Films & Sheets Division, Films & Sheets Products Marketing Project Team

Taichi Yatsuzuka Responsibilities: Marketing of films and sheets products

## As a Pioneer in Plastics, We Promote Environment-Friendly Chemical Recycling in Response to Environmental Protection.

-Going forward, how should the plastics industry respond to needs regarding the protection of the global environment?

**Yoshida:** I think there is a need to establish environment-friendly recycling systems. Customers have pointed out to me that "it is difficult to recycle plastic materials." One of the plastic recycling methods is a chemical recycling process that involves the use of supercritical fluid technology and is able to convert cured phenolic resin materials back to phenolic resin. Having established a pilot facility employing this process at the Shizuoka Plant, we are moving ahead for practical use and commercialization of the chemical recycling process. If we successfully establish the process, I think we can proudly appeal to the industry that recycling of phenolic resin will become possible using our Company's technology.

Yatsuzuka: Yes, that's true. Manufacturers' interest in recycling has been steadily increasing in recent years, and Sumitomo Bakelite has naturally been advancing with proactive measures in this regard. The multilayer film products that I work with are comprised of layers of diverse film materials, and it is difficult to recycle due to its diversity. However, as no progress would be made without making a challenging attempt, we should value efforts for improvement.

**Nakashima:** Yes, I also feel that plastic recycling is crucial. In addition, I think it is essential to take initiatives in reducing the use of materials, reusing materials, and employing biomass energy technologies. Furthermore, another thing about plastic products is that, even after Sumitomo Bakelite's initial processing of its products, the products often repeatedly undergo additional processing during the course of our customers' manufacturing operations, and it is important for us to consider means of reducing the energy consumed in connection with that additional processing. I think we must upgrade our technological capabilities for providing products that require less energy to process.

# Promoting Technologies to Reduce CO<sub>2</sub> Emissions and Energy Consumption

**Imai:** In recent years, the automobile industry has been called upon to respond to environmental concerns and other societal needs by reducing vehicle weight and improving fuel economy. Metals have the largest weight share of raw materials of automobiles, and considerable weight reduction can be achieved through the use of plastic components in place of metal components. It

## 100 Years of Plastics Roundtable Discussion

would seem that progressive use of plastics replacing metals is an effective means to reducing impact to the environment and to fulfilling important societal needs. I would like to enhance the improvement of automobile components.

Yatsuzuka: We have been seeing growth in needs associated with conventional automobiles as well as electric and fuel-cell vehicles. I think that now is the time to emphasize the marketing of lithium batteries and other environment-friendly products.

**Kagimoto:** The Electronic Device Materials Laboratory is engaged in work related to the use of materials that meet the laws and regulations of each country, such as the development of materials for lead-free semiconductor products. We are also focusing on reducing the energy consumption associated with manufacturing processes as well as the shipment of products to customers. Regarding our products that currently require refrigerated storage, we are studying the ways to store them at room temperature.

**Yoshida:** I also think it is very important to reduce energy consumption. Plastic materials often require a lot of heat for processing. If, for example, we can develop plastics that can be processed with just a momentary application of heat, that will lead to a big reduction of energy consumption.

**Imai:** That is certainly an interesting approach. In addition, I would like to give further consideration to optimizing materials' functionality/cost balances.

# Future Tasks That We Should Address as a Pioneer in Plastics

#### -For Further Progress in Plastics

# —What kinds of tasks should Sumitomo Bakelite perform for further contributing to society in the future?

**Imai:** During the past 100 years of the plastics business in Japan, the industry has realized diverse kinds of improvements. As members of the up-and-coming younger generation, I think we should be striving to promote further progressive improvement during the next 100 years of plastics. While seeking to respond to such customer requirements as those related to environment friendliness, cost, technologies, and functionality, we should be consistently demonstrating leadership within the industry. I think that this is our mission.

**Yoshida:** That's right. We have to maintain capabilities for keeping abreast of the needs of customers, society, and individual consumers. I would like our Company to progress while keeping close contact with society.



Tomohiro Kagimoto



Yohei Nakashima





Junji Imai



Taichi Yatsuzuka





Yasushi Yoshida

**Kagimoto:** I think it is important to build stronger relationships with customers as well as other stakeholders. To do this, we should constantly keep an eye on future needs and give due consideration to what we can do for society. I think building win-win relationships is the key to sustaining Sumitomo Bakelite's development as a pioneer in plastics.

Yatsuzuka: I agree. Another crucial goal that may be obvious but is still worth repeating is that we must continue providing products that make our life more comfortable and convenient.

**Nakashima:** That's right. Moreover, to ensure we can sustain society's trust in us, we must do our utmost to maintain a continuous emphasis on preventing work-related accidents. I also think it is important to promote people's perception that plastics are playing integral and beneficial roles in their lives, and I think that we should be doing this by creating loveable plastics—by which I mean plastics that appeal to people on an emotional level. One example could be plastics with local roots. In other words, we use locally sourced biomass as a raw material for producing plastics that are processed, supplied, and consumed in a given region. If we do so in this way, I think the number of people who feel more familiar with and have deeper attachment to plastics will increase.

**Kagimoto:** That's certainly an interesting idea. People do feel affectionate about products made from locally grown lumber and other locally made materials. Likewise, it would be excellent if we can realize that kind of objective. People 100 years from now will look back and note that our generation played a crucial role in promoting another era in the history of plastics.

Plans call for featuring the contents of this roundtable discussion in a Century of Plastics exhibition scheduled to be held during December 2011.

# **100 Years of Plastics**

Thinking about the future of plastics

## **Biodiversity Conservation Efforts**

Through its business operations and support activities, the Sumitomo Bakelite Group is endeavoring to do what it can to help preserve forests and conserve biodiversity.

### Sumitomo Bakelite's Approach to Biodiversity

We recognize the need for fundamental measures in our mainstay manufacturing operations to reduce the use of environmental impact substances and thereby contribute to biodiversity conservation. In addition, as a promotion partner of "The Declaration of Biodiversity by Nippon Keidanren," we are taking measures in accordance with that declaration.

#### **Effort with Our Core Business**

The plywood industry is participating in the Kizukai (Wood Use) Activity program as a means of helping conserve forests. Promoting forest conservation requires such measures as those involving the use of wood obtained from forest thinning activities, and the development of plywood applications is considered a promising means of promoting the use of such thinning wood. However, manufacturing plywood using thinning wood and conventional general-purpose phenol resin adhesives has faced challenges related to product quality and formaldehyde emissions.

In response to this situation, Sumitomo Bakelite has launched a phenol resin adhesive designed for manufacturing plywood using thinning wood (Yuroid PL-9000). In this way, the Company is supporting the plywood industry's efforts to make use of thinning wood.





Phenol resin adhesive

Plywood sheets used as wood of forest thinning

#### **Support Activities**

Sumitomo Bakelite supports forest thinning activities by using paper made with wood from such activities, which is promoted as Forest

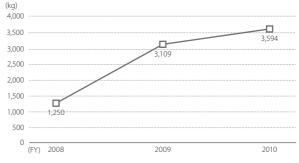


Thinning Paper by the Morino Chonai-Kai (Forest Neighborhood Association). We have used Forest Thinning Paper for the printing of an increasingly broad range of materials, including this *Environmental & Social Report* as well as other corporate brochures and internal reports, and this has led to a considerable increase in our Forest Thinning Paper usage volume.

At this time, there are 169 companies and associations supporting forest thinning activities this way in cooperation with Morino Chonai-Kai, a nonprofit organization focused on environmental issues that won the Environment Minister's Grand Prix within the Low Carbon Cup 2011 program. Currently supporting forest thinning at six locations in Iwate Prefecture and elsewhere in Japan, Morino Chonai-Kai is working to protect forests and thereby contribute to the conservation of biodiversity.

## Sumitomo Bakelite Usage of Paper Products

### that Promote the Use of Thinning Wood



### Plans for Creation of a Biotope

Aiming to increase employee awareness of biodiversity and contribute to regional biodiversity, Sumitomo Bakelite is moving ahead with plans to create a biotope at its Shizuoka Plant. Having obtained the guidance of specialists from local universities, we are currently implementing a study of the ecology of the biotope

candidate site, which includes a pond and the surrounding area. We also plan to organize a site observation tour with the participation of people from both inside and outside the Company.



The biotope candidate site at the Shizuoka Plant

### **Biodiversity Education**

In 2007, Sumitomo Bakelite began operating the SB School as an inhouse educational unit that provides e-learning courses for employees throughout the Company. The SB School's fiscal



2010 environmental education program included biodiversity education materials, and a Companywide program focused on biodiversity was implemented in June 2011. Of those eligible to participate, including corporate officers, 99.6% have completed the program.

## **Response to the Great East Japan Earthquake Disaster**

### **Disaster Situation**

Of the Sumitomo Bakelite Group facilities in eastern Japan, only minor damage was sustained at the Head Office in Tokyo, the Fundamental Research Laboratory in Yokohama, and the Kanuma Plant. However, there was significant damage to research and manufacturing facilities at the Utsunomiya Plant. In addition, an affiliated company in Akita Prefecture experienced small-scale problems with raw material transport lines owing to electric power interruptions following the earthquake.



Utsunomiya Plant

## **Assistance to Affected Areas**

Immediately after the earthquake, Sumitomo Bakelite hastened to make donations of relief funds, and additional donations were subsequently made using funds contributed by the Group's officers and employees. Moreover, aiming to provide items needed in the affected areas, the Company offered the following products free of charge.

- P-Plus<sup>®</sup> freshness maintenance film for household use: 10,000 boxes
- PVC corrugated sheets (construction materials for roofing and exterior walls): 10,000 sheets

#### **Response to Electric Power Conservation Needs**

Because the Great East Japan Earthquake reduced the power generation capabilities of Tokyo Electric Power Company and Tohoku Electric Power Company to below levels required to meet peak summertime power requirements, Japan's Ministry of Economy, Trade and Industry (METI) has required measures to reduce peak power consumption levels by 15%. The power consumption reduction requirements apply to 9:00am to 7:59pm on weekdays in the period from July 1 through September 22 in the region served by Tokyo Electric Power and in the period from July 1 through September 9 in the region served by Tohoku Electric Power. Sumitomo Bakelite facilities in the region served by Tokyo Electric Power include the Utsunomiya Plant, the Kanuma Plant, the Kanuma No. 2 Plant, and the Fundamental Research Laboratory. The region served by Tohoku Electric Power includes Akita Sumitomo Bakelite.

While Sumitomo Bakelite has already been advancing with energy conservation measures in the past, the Company is working to further lower its electric power consumption while concurrently seeking to shift its consumption away from the restricted periods through scheduling adjustments involving Saturday rotatational weekday shutdowns, rotatational consecutive summer holiday shutdowns, and nighttime manufacturing shifts. We are also moving ahead with the installation of private power generation equipment. In addition to striving to ensure attainment of the 15% power consumption reduction target, we are endeavoring to carry out our mission on behalf of society by autonomously setting our own additional power consumption targets.

Sumitomo Bakelite plants and affiliated companies outside the regions affected by the power consumption restrictions are also earnestly moving ahead with measures designed to enable attainment of the 15% power consumption reduction target.

## Responding to Customer Concerns and Requests Related to Radioactive Contamination (1) Activities to Promote Customers' Peace of Mind

Because of damage to the Fukushima Daiichi nuclear power plant stemming from the major earthquake and tsunami on March 11, 2011, Sumitomo Bakelite received approximately 80 inquiries and requests from customers, primarily overseas customers, regarding the possibility of radioactive contamination of the products and raw materials.

In response, we prepared uniform explanations and responses to customers' inquiries for use throughout the Company. In addition, based on our fundamental policy of providing customers with information on our radiation measurement methods and radiation measurement data, we reported to our customers that there was no radioactive contamination of our products and worked to ensure their understanding regarding that situation.

### (2) Cooperation with Government Entities and Outside Organizations Concerned

Sumitomo Bakelite received radioactive contamination-related questionnaires from such entities as METI (Ministry of Economy, Trade and Industry), the Japan Plastics Industry Federation, and the Japan Thermosetting Plastics Industry Association (JTPIA), and the Company responded to those questionnaires by reporting on its customers' inquiries and its responses to those inquiries. In addition, JTPIA established a countermeasures committee for responding to this issue. Sumitomo Bakelite has participated in this committee and undertaken appropriate response measures.

## The Company's Stakeholders

The Sumitomo Bakelite Group is moving ahead with its business operations while attaching great importance to its relationships with all of its various stakeholders.

#### Customers

The Group works in good faith to live up to its responsibilities related to such issues as product quality, delivery dates, and prices as well as to quickly respond to customer needs. To achieve this, we have established a CS Committee that is constantly endeavoring to further heighten the level of customer satisfaction.

## Shareholders

The Group is committed to distributing appropriate levels of dividends and is moving ahead with measures to disclose all relevant information. To attain these goals, we are striving to augment the efficiency of its management systems, increase the rigor of its corporate governance, and ensure the timely disclosure of relevant information.

### **Local Residents**

Operating as a member of local communities, the Group seeks to contribute to the regions in which it operates while giving due attention to environmental protection issues. We are, therefore, organizing factory tours for local residents and proactively participating in local events.

#### **Government Entities**

Besides maintaining rigorous compliance with relevant laws and regulations, the Group endeavors to make information publicly available and engage in two-way communications with local government entities. To this end, we are creating internal mechanisms for monitoring the revision and enactment of laws.

### **Business Partners**

The Group engages in impartial and fair business transactions and cooperates with its business partners to realize CSR procurement objectives. Accordingly, we maintain day-to-day dialog with business partners to confirm the propriety of transactions and clarify the terms of contracts.

#### **Employees**

The Group strives to create safe and pleasant work environments and provide employees with meaningful and satisfying careers. We are endeavoring to reduce workplace risks by implementing diverse kinds of risk assessments, and we are providing all employees with educational opportunities through the SB School.



## Corporate Governance, Compliance, and Risk Management

By augmenting its efforts related to corporate governance, compliance, and risk management, Sumitomo Bakelite is improving its transparency and relationship with society.

#### **Strengthening Corporate Governance**

We at Sumitomo Bakelite recognize that improving transparency and our relationship with society is fundamental to corporate governance. The Company's philosophy is to value trust and maintain steadiness. Based on this, we strive through our business activities to make contributions to social progress and improvements to quality of life worldwide and are taking steps to further improve corporate governance.

#### Management System

The Board of Directors, in accordance with laws and regulations, including the Board regulations, makes decisions on important operational execution matters and also monitors the progress of each director's operational execution through the reports on important issues related to performance of duties. In the case of situations corresponding to potential conflicts of interest involving directors, potential conflicts of interest are required to be submitted in advance to the Board of Directors so that the director in question will be excluded from participation in the process of making decisions on that approval. Director candidates are determined by the Board of Directors from among persons with appropriate qualifications and skills for the execution of the Group's management and social responsibility tasks and are appointed based on resolutions of the general meeting of shareholders. In addition, the remuneration of the directors (excluding outside directors) includes basic remuneration (monthly remuneration) and a bonus, and the total value of basic remuneration and bonuses is determined by the Board of Directors within the total remuneration value approved by shareholders

In addition, the Board appoints executive officers, and the executive officers are responsible for executing their assigned operations under the direction of the president. Currently, the management system includes nine directors and 18 executive officers (including seven who serve concurrently as directors). Of the directors, one is an outside director.

There are four corporate auditors, of which two are outside corporate auditors.

#### Structure of Corporate Governance



#### Internal Control

In May 2006, based on Sumitomo Bakelite's Business Philosophy, the Board of Directors determined the "Business Philosophy Regarding Internal Control System Establishment" with the goal of creating systems for ensuring that the Company's operations are appropriately conducted. For more-detailed information on this policy, please visit the Company's website (http://www.sumibe.co.jp). This Business Philosophy is reviewed when necessary, and various activities are moving ahead with the objective of further strengthening internal controls.

In addition, with respect to internal control over financial reporting, the Company's "Basic Rules and Regulations for Internal Control over Financial Reporting" were established in April 2008. In accordance with this policy, measures are being taken to strengthen systems for ensuring the reliability of the Group's financial reporting and to appropriately execute measures for implementing, evaluating, reporting on, correcting, etc., internal control systems as well as to execute the disclosure of corporate information in an appropriate and timely manner. Furthermore, in April 2010, aiming to build internal control systems governing subsidiaries and promote the sustained implementation of control activities, the Company established its "Comprehensive Guidelines for Internal Control in Consolidated Subsidiaries" and has clarified the initiatives that such subsidiaries must take.

With respect to the internal control over the Group's financial reporting as of March 31, 2011, the internal control was evaluated and consequently deemed to be effective. In addition, as a result of the financial auditor's audit, the internal control report was recognized to be appropriate with respect to the evaluation related to financial reporting.

#### **Rigorous Compliance**

Sumitomo Bakelite promotes management with an emphasis on compliance in recognition of the fact that adhering to laws and corporate ethics is a crucial component of business activities.

We endeavor to ensure that all the individuals constituting the Company are sufficiently informed regarding Our Standards of Conduct, an employee conduct code which each and every employee is expected to follow in conducting business activities. Also, we are moving forward with compliance initiatives led by the Compliance Committee. In addition, similar initiatives are being implemented at all Group companies to ensure uniform operations, and our affiliates, including those overseas, are establishing codes for conduct based on Our Standards of Conduct.

Regarding the compliance situation in fiscal 2010, there were no material violations of laws or regulations with respect to the environment, human rights, occupational health and safety, provision and usage of products and services, management of customer information and data, improper accounting, discrimination in the workplace, or improper or illegal conduct (including violations of the antitrust laws).

## **Corporate Governance, Compliance, and Risk Management**

#### **Our Standards of Conduct**

To further familiarize employees and ensure compliance with corporate ethics, Sumitomo Bakelite has established an employee conduct code called Our Standards of Conduct and distributes this in a booklet to all



employees. Also, periodically, this conduct code is confirmed by having employees take turns reading the code in the office.

#### **Our Standards of Conduct**

- 1. We play an important, beneficial role in our society, offering customers products and services that put customer satisfaction first.
- 2. We strive to improve the performance of the Sumitomo Bakelite Group, always taking a global perspective.
- 3. We adhere to our corporate ethics, complying with legal requirements and our bylaws both in Japan and abroad, while engaging in fair and transparent business activities.
- 4. We emphasize safety while independently engaging in environmental protection activities.
- We strive to create a pleasant work environment through respect for individual personalities and human rights.
- Note: The booklet includes what we should strive for as well as specific modes of behavior related to each item.

#### **Ten Articles for Compliance**

To make compliance an integral part of daily activities, each department decides on the key items for compliance and prepares "Ten Articles for Compliance." The content of these articles varies from one department to another, but they are displayed prominently in all workplaces, and they are confirmed with all employees periodically by having them read the articles aloud in unison. Overseas affiliates are also engaged in this kind of activity.

#### The Sumitomo Bakelite Compliance System

As part of systems to ensure the appropriate conduct of business activities by Directors and employees, Sumitomo Bakelite has established its Compliance Committee. This committee is responsible for promoting compliance through assessments of compliance levels and, when necessary, undertaking related improvements as well as education and training.



#### **Reporting System**

In cases where an employee discovers a compliance violation or suspects that there may have been a violation, he or she reports this directly to the supervisor or to a designated contact point. In addition to this internal reporting system, employees with such information to disclose can elect to report externally through designated legal counsel. The privacy of those disclosing such information is, therefore, strictly protected.

Two cases were reported in fiscal 2010, but neither of these involved major improprieties, and matters were dealt with appropriately.



#### Strengthening Risk Management

To prevent all kinds of potential risks from becoming actual and to minimize unavoidable business losses, Sumitomo Bakelite has established its Risk Management Committee, which operates continuously with a Companywide scope.

In April 2008, we instituted our Basic Risk Management Regulations, which establish the basic policy regarding the risk management of Sumitomo Bakelite and its Group companies, and we are currently

working to implement ontarget and precise management activities with respect to diverse kinds of risks.

During the current fiscal year, efforts are being focused on product quality risks, and we are advancing with the consideration of



Risk Management Committee

quality risk countermeasures for each business line.

#### Initiatives to Protect Personal Information

We recognize that the customer, shareholder, employee, and other personal information in our possession is important and must be protected, and therefore are committed to ensuring that this information will not be leaked to outside sources.

#### **Communication with Employees**

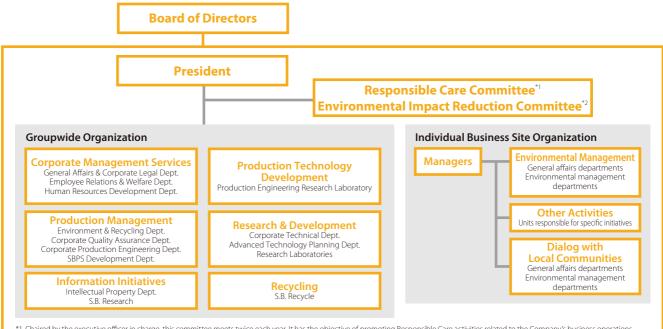
The Sumitomo Bakelite Labor Union is an organization that represents ordinary employees of the Company. Representatives of this union and the Company's management regularly hold labormanagement discussion meetings, and Companywide-level meetings are held twice each year. The president and other top executives participate in these meetings, at which they explain management situations, exchange opinions with union representatives, and respond to questions. Moreover, at each of the Company's facilities in Japan, labor-management discussion meetings are held each month, and diverse kinds of exchanges of opinions are undertaken at those meetings. In addition to labor-management discussion meetings, labor-management conferences are held each time such individual issues as those related to changes in labor conditions arise, with the conferences being held on a Companywide or facilitybased level in accordance with the given situation, and these conferences provide a forum for cooperative efforts to resolve problems.

## Management Policies, Corporate Policies for Safety and the Environment, and Promotional Organization

The Sumitomo Bakelite Group is promoting its policy of "society and environment-compatible management" in accordance with fundamental policies based on the Sumitomo Business Philosophy.



Sumitomo Bakelite's System for Promoting CSR Activities Centered on Responsible Care Operations



\*1. Chaired by the executive officer in charge, this committee meets twice each year. It has the objective of promoting Responsible Care activities related to the Company's business operations. \*2. Chaired by the executive officer in charge of corporate technical departments, this committee has two subcommittees—the Life Cycle Committee and Energy Conservation Committee. It meets once or twice each year, while each of the subcommittees meets twice each year. It has the objective of promoting environmental impact reduction with respect to the Company's products' life cycles and promoting the conservation of energy and resources with respect to the Company's manufacturing plants.

## **Efforts to Reduce Environmental Impact**

Aiming to reduce our environmental impact, we have set Medium- and Long-Term Environmental Impact Reduction Targets and are promoting their attainment.

Actual performance in fiscal 2010 and targets for fiscal 2011 are shown below.

At domestic business sites, there has been a temporary increase in chemical substance emission owing to the expansion of manufacturing plant facilities, although plans call for achieving a decrease from the latter half of fiscal 2011 through the implementation of facility countermeasures.

Smooth progress is being made toward the attainment of medium- and long-term targets concerning  $CO_2$  emissions. Material loss rose to above the fiscal 2009 level owing to an increase in production volume. At overseas business sites, a rise in production volume caused year-on-year rises in  $CO_2$  emissions and material loss during fiscal 2010. However, the rate of increase in  $CO_2$  emissions has been less than the rate of increase in production volume, so that  $CO_2$  emissions per unit of production volume has been improving.

In addition, beginning from fiscal 2010, we have begun measuring our actual performance regarding chemical substance emission at our overseas sites. Medium- and long-term targets for the reduction of chemical substance emission by fiscal 2020 have been set, and measures are being implemented to attain those targets.

#### Domestic Business Sites 🧭

	2005 2009		2010	2011 mlan	Medium- and long-term target		
Action	performance (t)	performance (t)	performance (t)	2011 plan (t)	Reduction from fiscal 2005 (%)	Target for fiscal 2020 (t)	
CO <sub>2</sub> emissions	137,961	107,233	101,181	100,895	25%	103,471	
Material loss	20,945	16,137	16,724	15,858	36%	13,330	
Chemical substance emission	512	222	273	209	80%	102	

#### Overseas Business Sites

	2005	2009	2010	2011 alan	Medium- and lo	ong-term target
Action	performance (t)	performance (t)	performance (t)	2011 plan (t)	Reduction from fiscal 2005 (%)	Target for fiscal 2020 (t)
CO <sub>2</sub> emissions	163,259	151,074	160,989	175,910	15%	138,770
Material loss	28,488	17,795	21,642	20,813	41%	16,792
Chemical substance emission	_	_	328*2	303	50%*3	164

Notes: 1. For information on the boundary and the recompilation of data for previous years, please see the "Boundary" section on page 1.

2. Fiscal 2009 data is used for business sites for which fiscal 2010 data were not available when the targets were set (Durez Corporation, Durez Canada, and Vyncolit). This figure is outside the scope of assurance.

3. Rate of decrease compared to actual performance in fiscal 2010

#### Definitions

#### • CO<sub>2</sub> emissions:

CO<sub>2</sub> emissions are calculated from energy consumed in all kinds of business activities (fuels, heat, electric power, etc.).

The emissions calculation method used is based on the *Manual for Calculating/Reporting Greenhouse Gas Emissions* (March 2009, Ministry of the Environment and Ministry of Economy, Trade and Industry), and figures shown represent the sum of emissions calculated for each energy type (t-CO<sub>2</sub>). For the calorific values of city gas and CO<sub>2</sub> emission coefficients of electricity, figures published by the respective supplier companies were used.

#### Material loss:

Total of aggregate volume of industrial and general waste from business sites together with the volume of non-product valuable resources generated at business sites Definitions of each type of waste are as follows.

(1) Landfill: waste disposed of in landfills by the Company or outsourced contractors

(2) External intermediate processing; waste incinerated by outsourced contractors (simple incineration without energy recovery)

(3) Internal intermediate processing: waste incinerated in-house (simple incineration without energy recovery)

(4) External recycling (expenses paid): waste recycled with payment made to cover processing costs (including thermal recycling)

Note: Waste generated owing to the retirement of facilities, repairs, building demolition (in-house demolition work), etc., is not included in the scope of waste, nor is valuable dismantling scrap material that is sold, facilities resold, or construction material waste (for which a manifest is issued by the Company).

#### • Chemical substance emission:

Total emissions into the air, bodies of water, and the ground (aggregate volume) of chemical substances targeted by the Japan Chemical Industry Association (JCIA)'s Pollutant Release and Transfer Register (PRTR) assessments (including substances subject to the reporting requirements of Japan's Specified Chemical Substance Law (PRTR system))

For overseas business sites, chemical substance emissions represent the total emissions into the atmosphere, bodies of water, and soil of chemical substances targeted by local laws and regulations corresponding to Japan's PRTR system.

However, excluded from this item are substances for which separate compilation guidelines have been established (including emissions into the atmosphere of CO<sub>2</sub>, SO<sub>x</sub>, NO<sub>x</sub>, and soot and dust and emissions into bodies of water of COD, total phosphorus, and total nitrogen) as well as carbon monoxide, BOD, and total organic carbon emissions. For countries that do not have local laws and regulations corresponding to Japan's PRTR system, Japanese standards (chemical substances targeted by JCIA's PRTR assessments) are employed.

## **CO<sub>2</sub> Emissions and Energy Conservation**

Sumitomo Bakelite implements energy conservation activities and strives to reduce CO<sub>2</sub> emissions.

### **Energy and Resource Conservation Efforts**

**Establishment of the Environmental Impact Reduction Committee** 

In fiscal 2010, we established the Environmental Impact Reduction Committee as a Company-wide unit, and the committee has been moving ahead with stepped-up efforts with respect to energy and resource conservation.

In fiscal 2010, total  $CO_2$  emissions volume amounted to 101,181 tons, a level 6,052 tons lower than the 107,233-ton level in fiscal 2009.

Two subcommittees of the Environmental Impact Reduction Committee have been established, of which the Life Cycle Subcommittee is promoting product design based on life-cycle assessment (LCA) beginning from R&D stages and is moving ahead with the creation of review mechanisms for enabling the application of energy-conserving manufacturing methods beginning from the start of the mass manufacture of new products.

The Energy Conservation Subcommittee is not restricting its scope to utilities, but is seeking to elicit and implement radical energy-conservation proposals that cover manufacturing processes. It is moving ahead with project activities while obtaining guidance from outside consultants.

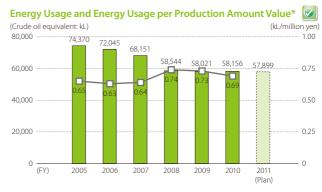
In fiscal 2010, plan drafting projects were implemented in principal manufacturing departments of the Shizuoka Plant, and those departments submitted energy-conservation plans calling for energy-consumption reductions exceeding 15%. Beginning in fiscal 2011, implementation organizations have been created, and measures are being implemented in accordance with the plans.

In fiscal 2011, an additional plan project has been initiated at the Amagasaki Plant. It is expected that energy-conservation plans will be submitted in December 2011 that call for an energyconsumption reduction target of 10%.

#### **MFCA\* Efforts**

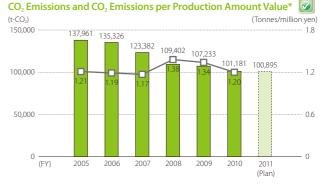
Sumitomo Bakelite's material flow cost accounting (MFCA) efforts have enabled the Company to improve effective rates of resource utilization, contributing to waste reduction as well as energy conservation. In fiscal 2010, we moved ahead with a pilot process loss analysis project using MFCA with respect to manufacturing lines at two manufacturing plants. In fiscal 2011, we are advancing with fundamental analyses of main production lines at all domestic business sites.

\* MFCA is an environmental management accounting method designed to concurrently reduce environmental impact and costs. Sumitomo Bakelite uses MFCA as an analysis method.



\* Energy usage per production amount value is determined using the following equation: Energy usage per production amount value = energy usage/(production amount x unit price)

Notes: 1. Data are compiled from all domestic business sites listed on page 1. 2. For information on the recompilation of data for previous years, please see the "Boundary" section on page 1.



\* CO<sub>2</sub> emissions per production amount value are determined using the following equation: CO<sub>2</sub> emissions per production amount value = CO<sub>2</sub> emissions/(production amount x unit price) Notes: 1. Data are compiled from all domestic business sites listed on page 1.

 For information on the recompilation of data for previous years, please see the "Boundary" section on page 1.

## **CO<sub>2</sub> Emissions and Energy Conservation**

### Responding to the Energy Conservation Act and the Global Warming Act Conserving Energy in the Plants

Accompanying revisions in the Energy Conservation Act (Act on the Rational Use of Energy) and the Global Warming Law (Act on Promotion of Global Warming Countermeasures), since Sumitomo

Bakelite and two\*<sup>1</sup> of its subsidiaries have been designated as specified companies under these laws, we have made periodic reports on related matters since the actual results of fiscal 2009. Going forward, the entire Group will work proactively to conserve energy with the goal of realizing average annual energy consumption reductions of 1% or more.

	Initiatives	Unit	Fiscal 2009 performance	Fiscal 2010 performance
	CO <sub>2</sub> emissions	t-CO <sub>2</sub>	84,469	84,035
Sumitomo Bakelite	Energy usage	Crude oil equivalent (kL)	46,699	48,903
	Year-on-year ratio of the unit energy usage*2	%		96.8%

\*1. Data for two subsidiaries is shown on the Data Section of the web version.

\*2. Since the denominator for the unit energy usage for each business unit is different, the year-on-year ratio for the Company as a whole has been expressed as a change in the contribution rate from the previous fiscal year.

#### Distribution-Related Energy Conservation Measures 🧭

Based on Japan's Act on the Rational Use of Energy, Sumitomo Bakelite has since fiscal 2006 been working as a "specified load owner" to calculate shipping-related energy usage. As a result of an increase in sales in fiscal 2010, we increased the volume 4.7 million tonne-kilometers from the previous year to reach a volume transported of 37.27 million tonne-kilometers.

	Initiatives	Units	FY2006	FY2007	FY2008	FY2009	FY2010
Shipping tonne-kilometers		Thousands of tonne-kilometers	30,297	41,265	33,647	32,573	37,271
$CO_2$ emissions associated with energy use		t-CO <sub>2</sub>	5,090	6,730	5,580	5,270	5,780
Energy con- sumption per shipping	Energy consumption (crude oil equivalent; kL)/shipping thousands of tonne-kilometers	kL/thousands of tonne-kilometers	0.0632	0.0613	0.0624	0.0609	0.0583
unit	Year-on-year ratio (FY2006=100%)	%	100	97.0	98.7	96.4	92.2

#### **Reduction of Emissions of Chemical Substances**

Since fiscal 1996, the Company has been involved in JCIA PRTR\*<sup>1</sup> initiatives, keeping track of the release and transfer of certain substances and setting medium-term and long-term targets for improvement, and we made progress in reducing emissions of chemical substances into the environment.

Beginning in fiscal 2010, we expanded the scope of the management target from the volume of atmospheric emissions of solvents to include emissions into the atmosphere, bodies of water, and soil of applicable chemical substances. The trends since fiscal 2005 are shown in the graph.

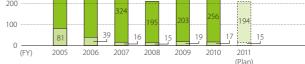
In fiscal 2010, as a result of the introduction of new production equipment, emissions increased temporarily, but as a result of countermeasures for the equipment, emissions are scheduled to be reduced again in the latter half of fiscal 2011. In addition, emissions of substances that are subject to PRTR requirements, as specified in the Specified Chemical Substance Law<sup>\*2</sup>, were reduced to a total of approximately 17 tons from fiscal 2009. Looking ahead, based on the New Medium- to Long-Term Management Plan, we will take initiatives to make further reductions to attain the objectives set for 2020.

\*1. The Pollutant Release and Transfer Register (PRTR) system provides for measuring, compiling, and reporting data on the amounts of harmful chemical substances that have been released into the environment, and the amounts transferred from business locations in the form of waste.

\*2. The "Specified Chemical Substance Law" is the shortened version of "The Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof." The amounts of the 34 substances subject to control under the Specified Chemical Substance Law, which were released/transferred by the Company, are shown in the Data Section of the web version.

## (Tonnes) 600 512 Non-Specified Chemical Substance Law substances 500 423 400 340 300 431 273 200 222 209

Reductions in Emissions Volume of Chemical Substances



Notes: 1. Data are compiled from all domestic business sites listed on page 1.
2. For information on the recompilation of data for previous years, please see the "Boundary" section on page 1. In addition, although a review of past data was conducted along with the expansion of the scope of the compilation of data to include emissions into the atmosphere, bodies of water, and the soil of all substances subject to the Japan Chemical Industry Association's PRTR assessments, there was almost no change in the data.

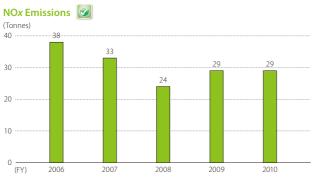
## **Reduction of Environmental Impact Substances**

Sumitomo Bakelite is continuing to implement initiatives to reduce the environmental impact on air quality and bodies of water.

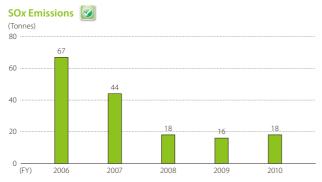
#### **Air Emissions**

Since 2004, we have continuously worked to shift from heavy fuel oil to natural gas as the source of energy for boilers at domestic business locations. In fiscal 2010, we continued implementing measures to convert fuel sources at the Shizuoka Plant.

In fiscal 2010, as a result of an increase in the volume of production, the volume of fuels used increased, but emissions of NOx, SOx, and soot and dust were either the same as in fiscal 2009 or increased only slightly.

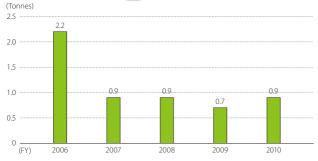


Note: Data are compiled from all domestic business sites listed on page 1.



Note: Data are compiled from all domestic business sites listed on page 1

## Soot and Dust Emissions 😡

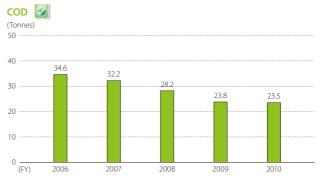


Note: Data are compiled from all domestic business sites listed on page 1

### Water Discharges

Factory water discharges are broadly classified into wastewater, which includes effluent from the production process and domestic effluent, and rainwater, which includes coolant water effluent. By recycling coolant water, we are working to curb the use of water resources and reduce our wastewater discharges.

Regarding wastewater, we operate such treatment equipment as high-precision phenol recovery equipment, activated sludge treatment equipment, and neutralizing and coagulating sedimentation equipment (metal removal treatment) and have established a regular monitoring system that uses monitoring devices in an effort to comply with national wastewater standards, ordinances, and agreements with local communities.



Notes: 1. Data are compiled from all domestic business sites listed on page 1.

2. COD: Chemical oxygen demand: An index of organic matter pollution in water that indicates the amount of oxygen consumed by the oxidizing agent potassium permanganate in the oxidation of organic matter in water.

## **Promoting Reduction in Material Losses**

The Sumitomo Bakelite Group, to reduce the environmental impact of its activities and costs, is implementing initiatives to increase the effective utilization ratio of material resources.

The Sumitomo Bakelite Group, to reduce the environmental impact of its activities and increase income, is implementing measures to increase the effective utilization ratio of material resources. To this end, the Group has worked to increase manufacturing process yields, promote recycling within processes, and taken other measures.

Beginning in the previous fiscal year, the Group revised its medium- to long-term plan for reducing the environmental impact of its activities and expanded the scope of materials to include all valuable materials as well as set a goal for reducing material losses.

In addition, to continue to reduce the environmental impact as a result of waste disposal in the domestic business sites, the Group is promoting the recycling and reuse of materials (to attain zero emissions) rather than disposing wastes in landfill sites and/or simple incineration.

The graph below, entitled "Volume of Material Losses," shows the trend in material losses and goals as well as trends in "Materials Subject to Zero Emissions Measures."

The volume of material losses was steadily declining year by year as a result of the promotion of increases in process yields, recycling, and conversion to valuable materials.

In fiscal 2010, the volume of material losses increased slightly because of the rise in production volume, but, going forward, based on the New Medium- to Long-Term Management Plan, initiatives will be taken to reduce all forms of losses that occur in production processes, including such losses in wastes and valuable materials, and thereby promote the conservation of materials.

Materials coming under the classification of "Materials Subject to Zero Emissions Measures" had been reduced to almost zero in the latter half of fiscal 2009. We will continue to maintain this low level.

In fiscal 2010, the Kanuma Plant was designated as a zero emissions business site.

Note: Zero emissions business sites are those where the total volume of wastes disposed of in landfills and subjected to simple incineration is less than three tons for any six consecutive months, and also for the following six months.



Notes: 1. Data are compiled from all domestic business sites listed on page 1. However, the Head Office and marketing offices are not included with the scope of data compilation for the figures for the volume of waste generated.

For information on the restatement of data for previous years, please see the "Boundary" section on page 1.

3. Waste consists of the amount of landfill waste, externally incinerated waste, internally incinerated waste, and externally recycled waste (expenses paid).



Notes: 1. Data are compiled from all domestic business sites listed on page 1.

 Zero-emission-targeted substances include landfill waste, externally incinerated waste, and internally incinerated waste. No waste was incinerated at domestic business sites in fiscal 2010.

## Comments

## Kanuma Plant

To attain zero emissions status, we first surveyed the current status of wastes, and then identified what could be sold and converted these to wastes with valuable resources whenever possible.

When certain wastes were being disposed of in landfills because the basic materials contained in waste were not clear, we made inquiries at the procurement source and worked to reuse these materials.

Also, we worked to recycle and reuse adhesives and looked for reprocessing companies that could recover materials using heat recovery processes.

Finally, for those wastes that we could not sell, reuse, or recover through heat processes, we disposed of in landfills to attain zero emissions status.

At present, following the New Mediumto Long-Term Management Plan, we are beginning new initiatives aimed at reducing material losses, including ways of extracting and selling valuable materials.



Ken Furukawa, Environmental Management Dept.

#### **Basic R&D Center**

As in the previous year, this business site was designated by the City of Yokohama as an "Outstanding Waste-Separation Performance Facility."

This designation system, which is part of the City of Yokohama's activities, is known as the "Yokohama 3R Dream (Slim)" (formerly, the "Yokohama G30"). Locations are assessed according to three criteria: namely, appropriateness of waste separation classification, application of the separation process in all areas, and recycle when possible. Our business site received high marks in all three areas, and we received this award for a second consecutive year.



Tomohito Ohtsuki (left) and Hisayoshi Miyasaka (right), Facilities and Environment Department

Award for "Outstanding Waste-Separation Performance Facility"

## Soil and Groundwater Assessment and Countermeasures

In addition to measures for cleaning up areas where pollution was found, the Sumitomo Bakelite Group has conducted risk assessments of possible leakage of chemical substances at its business sites in Japan and overseas and is putting frameworks in place to take countermeasures.

# Soil and Groundwater Remediation Work at a Former Plant Site of Sano Plastic\*

Remediation work of soil and groundwater contamination by trichloroethylene and other chemicals, which was identified in the investigation that started in December 2006, ended in May 2009, and thereafter monitoring was conducted for two years, and the activities were concluded in May 2011. The factory premises groundwater continues to show levels below the required standards, and, even though there was a time when groundwater in the vicinity was above the standards, the levels there have subsequently declined to meet the standards. These results were reported to the appropriate government authorities and the neighboring community.

\* The site in question—at 213 Kubocho, Sano City, Tochigi Prefecture—was the location of molded plastic product manufacturing operations of a consolidated subsidiary of the Company during the period from August 1968 through June 2002. That manufacturing facility was closed in August 2002.





## Stream Water Pollution due to Effluent from the Durez Corporation's Kenton Plant in the United States

In August 2009, the State of Ohio's Environmental Protection Agency detected phenols, chlorobenzene, and other pollutants in stream sediment. After autonomously undertaking a survey\* to determine the magnitude and spatial scope of the contamination, Durez decided to use excavation and suction methods to remove sediment from an area between an effluent pipe and a point 1,400 feet downstream, and then this soil was replaced with high-quality soil. The soil remediation and restoration work was completed in October 2010, and a report was submitted to the government authorities.

\* The survey results were as follows.

- Phenols: maximum of 6.51mg/kg (environmental quality standard: 0.15mg/kg)
- 3&4 methylphenol: maximum of 0.95mg/kg (environmental quality standard: 0.54mg/kg)
- 1,4 -dichlorobenzene: maximum of 251mg/kg (environmental quality standard: 0.318mg/kg)
- 1,2,4-trichlorobenzene: maximum of 18,600mg/kg (environmental quality standard: 5,062mg/kg)
  Chlorobenzene substances: The Company has not used chlorobenzene substances as materials since the acquisition in 2000, but there is a possibility that, prior to the acquisition, the former company may have used raw materials contaminated with these substances and this may have been the cause of the pollution.



Durez Corporation (Kenton Plant)





Excavation

Backfill

#### Leakage Risk Assessment

It is regrettable that the leakage of chemical substances in the past has caused anxiety among residents of the community surrounding our former plant site. Based on the lessons learned from the incident, we have reaffirmed our awareness that preserving the natural environment in the regions around our plants is a basic principle of our CSR. To ensure that our plants never leak chemical substances into the environment, the Company has developed its own risk assessment method as a preventive measure. Beginning in fiscal 2010, risk assessments were conducted at our plants, R&D centers, and affiliate companies in Japan and overseas, and steps were taken to make improvement in equipment where the assessments concluded that there was a high risk of leakage. During fiscal 2010, there were no major leakage accidents.

### Soil/Groundwater Survey Results, Countermeasures, and Monitoring Situations 🥥

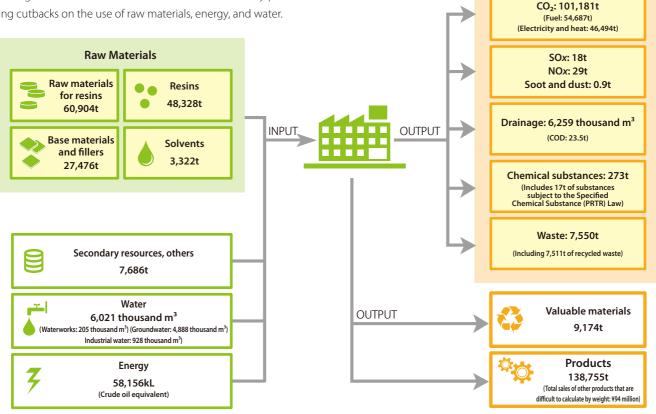
Site	Survey results	Countermeasures/ Monitoring situation
Kanuma Plant	Boron detected in soil adjacent to a waste liquid tank within the plant complex (March 2008). Maximum of 3.8mg/L at 3m depth (environmental quality standard: 1mg/L). No groundwater pollution	Forbade excavation in the contaminated portion and the surrounding area; monitoring groundwater on a continuing basis through 2012, and moni- toring is continuing and levels detected are below the required standards.
Amagasaki Plant	Lead detected in soil (content, 2009 and 2010). Maximum of 550mg/kg (environmental quality standard: 150mg/kg). No groundwater pollution	When buildings were disman- tled, surveys were conducted and groundwater is monitored on a continuing basis to ensure that levels detected are below the required standards.
Akita Sumitomo Bakelite	Lead detected in soil (extract- ed, 2005). Maximum of 0.032mg/L (environmental quality stan- dard: 0.01mg/L). No ground- water pollution	Established observation well; monitoring groundwater on a continuing basis

## Material Balance and Investments for Environmental Conservation 🧭

The environmental impact of Sumitomo Bakelite's domestic business activities and trends in investments for environmental conservation are shown below.

## **Material Balance**

The chart below shows inputs, including raw materials and energy, as well as outputs that are released into the environment. The Group is working to reduce its impact on the environment through waste reduction and resource conservation by promoting cutbacks on the use of raw materials, energy, and water.



Notes: 1. These figures cover the domestic business locations listed on page 1.

2. Looking forward, data on inputs and outputs of overseas business locations will be gathered and disclosed.

#### Investments for Environmental Conservation

Sumitomo Bakelite has compiled data annually on the amounts of investments for environmental conservation of all domestic Group companies since 2000.

As the graph shows, Group investments have been stable, and the Group is working to improve its environmental conservation efforts.

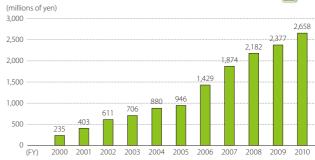
# Investment for Environmental Conservation in Fiscal 2010

Item	Investment (millions of yen)
Emissions control	103
Energy conservation	162
Waste reduction, recycling, and treatment	9
Environmental management activities	7
Total	281

Note: For terms covered by the data compilation and business sites, please see page 1.

Accumulated Investments for Environmental Conservation 🥑

**Environmental Emissions** 



Figures have been tabulated based on the Company's Environmental Accounting Compilation Standards with reference to the Ministry of the Environment's Environmental Accounting Guidelines 2005.

Figures for accumulated investments in environmental conservation are aggregated totals of previously compiled and disclosed figures for total environmental conservation costs (investment).

## **Environmental Conservation Activities**

The Sumitomo Bakelite Group is constantly striving to further improve its environmental conservation activities.

### **History of Activities**

Year	Sumitomo Bakelite Group initiatives	Societal developments
1969	Pollution countermeasures secretariat established	
1973	Environmental Management Division established     Environmental auditing of domestic business sites commenced	
1974	• Environmental management departments established for all business sites	
1978	Environmental auditing of domestic affiliates commenced	
1987		Montreal Protocol on Substances That Deplete the Ozone Layer adopted
1990	Environmental Issue Action Committee established     Appointment of director in charge	
1991	Recycling Technology Action Office established	Law Promoting the Use of Recycled Resources enacted
1992	S.B. Recycle established	United Nations Conference on Environment and Development (UNCED or Earth Summit) generates several agreements, including the "Rio Declaration on Environment and Development" and "Agenda 21"
1993	<ul> <li>Environment and Safety Volunteer Plan drafted</li> <li>Environment and safety management regulations established</li> <li>Environmental audits of overseas affiliates commenced</li> </ul>	• The Basic Environment Law enacted
1994	Use of certain CFCs and 1,1,1-trichloroethane ceased	
1995	<ul> <li>Responsible Care Committee established</li> <li>The Company joined the Japan Responsible Care Council as a founding member</li> </ul>	Japan Responsible Care Council (JRCC) established     Law for Promotion of Sorted Collection and Recycling of Containers and Packaging enacted
1997	<ul> <li>"Corporate Policies for Safety, Health, and the Environment" revised</li> <li>Utsunomiya Plant and Sumitomo Bakelite Singapore acquired ISO 14001 certification</li> </ul>	• Kyoto Protocol adopted by the Third Conference of the Parties of the United Nations Framework Convention on Climate Change (COP3)
1998	First Environmental Activities Report issued	
1999	All Sumitomo Bakelite plants acquired ISO 14001 certification	Law Concerning Reporting, Etc., of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management enacted     Law Concerning Special Measures against Dioxins enacted
2000	Environmental accounting implemented	Basic Law for Establishing the Recycling-Based Society enacted
2001	Environmental Report issued (independent reviews conducted)	Law Concerning Special Measures against PCB Waste enacted
2002	<ul> <li>Scope of <i>Environmental Report</i> expanded to include domestic affiliates</li> <li>Tokyo Kakohin received an award for promoting a "3R" policy of reduce, reuse, and recycle</li> <li>Risk Management Committee established</li> </ul>	Soil Contamination Countermeasures Law enacted     Japan adopted COP3 Kyoto Protocol     World Summit on Sustainable Development generates Johannesburg     Declaration on Sustainable Development
2003	Yamaroku Kasei Industry became certified as the Company's first zero waste emissions plant     Compliance Committee established	Building Code revised to resolve "sick building" syndrome
2004	Shizuoka Plant commenced operations of a cogeneration system	Air Pollution Prevention Law revised to reduce volatile organic compound (VOC)     emissions
2005	<ul> <li>Title of annual Environmental Report changed to Environmental &amp; Social Report to reflect broader coverage of social initiatives</li> <li>Sumitomo Bakelite (Taiwan) recognized as the Sumitomo Bakelite Group's first overseas zero emissions facility</li> </ul>	<ul> <li>Kyoto Protocol went into effect</li> <li>Ordinance on Prevention of Health Impairment due to Asbestos</li> </ul>
2007		The new EU Regulation for Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) came into force
2008	<ul> <li>Start of soil and groundwater pollution remediation measures at a site owned by Sano Plastic following the dismantling of a factory building there</li> <li>Signed Responsible Care Global Charter</li> </ul>	• G8 Hokkaido Toyako Summit
2009	<ul> <li>Inauguration of multilingual Material Safety Data Sheet (MSDS) system</li> <li>Began participating as a partner in the Declaration of Biodiversity of the Japan Business Federation (Nippon Keidanren)</li> </ul>	Revised Act on the Rational Use of Energy took effect     15th Conference of the Parties (COP15) held with the UN Climate Change     Conference (Copenhagen Summit)
2010	Establishment of the Environmental Impact Reduction Committee	• 10th Conference of the Parties (COP10) to the Convention on Biological Diversity

Items in blue represent developments in international society.

### **Regarding Future Activities**

Sumitomo Bakelite has adopted the management principle "Management that is highly compatible with society and the environment." Accordingly, we are moving ahead to achieve additional reductions in the environmental impact of our business activities with respect to each stage of the product life-cycle process.

Aiming to attain our Medium- and Long-Term Environmental Impact Reduction Targets, we are striving to conserve energy, reduce material losses, and lower the level of our release of chemical substances into the environment. Last fiscal year, we were able to attain our energy conservation target, although we were not able to attain our resource conservation target. This fiscal year, we are doing our utmost to attain our resource conservation target through the introduction of material

flow cost accounting (MFCA) methods at all domestic business sites. We will also relentlessly work to conserve energy going forward by promoting activities designed to enhance manufacturing processes.



Takamasa Akamatsu, Department Manager, Environment & Recycling Department

## **Product Liability**

Sumitomo Bakelite is moving ahead with quality management activities on a Companywide level to enhance customer satisfaction by providing its customers with products and services with quality that they can use free from worry.

#### **Quality Assurance System**

At the domestic and overseas business sites of Sumitomo Bakelite and other Sumitomo Bakelite Group companies, a quality management system (QMS) has been developed based on ISO 9001, and certifications have been obtained (for a total of 30 sites as of April 1, 2011). A framework has been established to enable related divisions to cooperate with each other and maintain and improve quality in processes (from product planning, R&D, product design and development, manufacturing preparatory work, and manufacturing to sales and service). Under this system, quality is maintained and improved, and, thereby, customers are able to use Company products with satisfaction and freedom from worry.

#### **Quality Management Policy during the Fiscal Year**

The Company and all other members of the Sumitomo Bakelite Group implement systematic quality assurance initiatives based on the QMS. For this reason, the quality management policy described below has been established.

Under this policy, the basis for correcting problems that have been identified in quality reviews is understood to be "making rules", "creating organizations", and "raising employees' skill".

### <Basic Policy>

The Sumitomo Bakelite (SB) Group of companies is an entity that offers delight to customers through excellent products and services. For that, all SB employees shall truly and sincerely respond to customer requirements and changes in the social and business environments. We shall establish an organizational framework coupled with a well-functioned system and efficient process to ensure and improve "Total Production Quality in a Broader Sense", which is required by customers and markets, by consolidating all of SB's available resources.

#### < Action Plan>

In accordance with the above-mentioned policy, all SB Group employees shall:

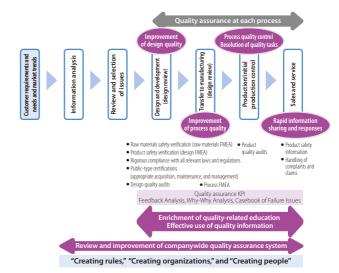
- 1. Work on the improvement of CS (Customer Satisfaction).
- Reflect the real needs of customers appropriately in product design and development, production, quality assurance, and sales. And provide the products and service to offer delight to customers in a timely manner.
- 2. Enhance the quality assurance process and the organizational framework to establish and implement a system to restrain quality risk.
- 3. Reduce the failure cost (F Cost).
- 4. Improve our consciousness and skills to restrain quality risk.

The following sections offer a general description of these measures.

#### Introduction about Actual Activities

The chart in the upper right-hand side of this page shows principal elements in the flow of activities from market surveys to sales and services.

Throughout the range of processes from product design and development to manufacturing and sales, we are implementing risk assessment, inspections, and verification measures and are moving forward with activities to reduce and avoid product quality risks.



### Initiatives to Review and Maintain Quality Assurance Systems and Structures across the SB Group

The Company is moving ahead with a review of systems and structures for quality assurance worldwide and the making of improvements that will attain the aims of its basic policy. As part of these activities, the Company is reviewing the key performance indicators (KPIs) for quality assurance that it applies at present and is working to further increase quality in all its processes. In addition, for those business departments that handle products that may have high product risks, the Corporate Quality Assurance Department provides assistance and moves forward with the implementation of a framework that will strongly restrain product risks in all its processes.

### Initiatives to Increase Design Quality and Process Quality (1) Failure Modes and Effects Analysis (FMEA)

In processes for the development of new products, more finely finished product design and process design are required. For this reason, we implement FMEA for raw materials, design, and production processes on a continuing basis and incorporate measures for restraining risks.

#### (2) Quality Audits

To ensure product safety, we implement periodic quality audits of design, development, and production activities at our domestic plants and principal subsidiaries in Japan and overseas. We also conduct programs to heighten awareness of quality control and product safety measures. These various activities were conducted again during the fiscal year covered by this report. In addition, for business departments that are launching new products, we aim for a smooth approach to market introduction by sharing issues related to the status of quality assurance and manufacturing (*monozukuri*) with the relevant persons and taking appropriate action.

#### (3) Design Reviews

To check, inspect, and verify such issues as whether design specifications meet customers' requirements, whether processes can realize design specifications, and whether product safety is ensured, etc., each business unit implements design reviews at each design stage and is moving forward with countermeasures to restrain quality risks. In addition, for products that have high product quality risks, the Corporate Quality Assurance Department provides support by confirming the content of design review, conducting more in-depth verification, and other means.

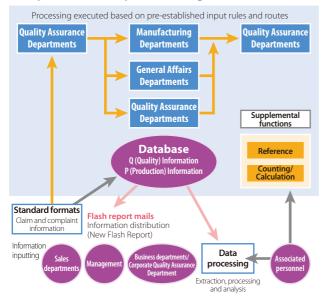
### Activities to Quickly Share and Initiatives for Making Effective Use of Quality Information (1) Claims and Dealing with Serious Claims

Based on the system developed across the SB Group for processing claims and complaints, each department defines ranks for classifying the seriousness of claims for each product group and implements measures for standardization, investigating and identifying the root causes of claims, as well as correcting them, preventing recurrences, and taking advance preventive measures. Within the claim processing procedures, those claims that have an extremely large impact on society and customers are handled in a separate framework as serious quality problems. Under this framework, a headquarters task force is formed to work with the local task force unit and share issues and information as well as give timely responses. This framework also provides for quick reporting on these matters to managementlevel personnel.

#### (2) Making Available and Using Quality Information Systems

Diverse quality-related information from customers—such as information related to claims and complaints—is input into the system, registered in the database, mailed to management and other relevant staff as a flash report, and shared among those people. On the other hand, under this system, accumulated data and information is managed centrally within the Company. This accumulation of information is used in many ways as a support tool and database to assist internal users in settling issues rapidly. During the current fiscal year, measures are being implemented that are aimed at introducing and making use of this system at overseas subsidiaries where it has not yet been made available.

#### Overview of the Quality Information System (Example of Claim & Complaint Processing)



#### (3) Casebook of Failure Issues

When serious quality issues have emerged thus far, we have worked to identify the root causes by conducting "Feedback Analysis" and "Why-Why Analysis". We have then developed measures to prevent recurrences of these issues and apply remedial measures through the relevant Company departments. In parallel with this, we work to prevent recognition regarding serious issues from fading, and, to prevent problems of this kind from emerging again, we also prepared a casebook of failure issues based on the previously mentioned analyses. This fiscal year, to make it easier to prepare, accumulate, disseminate, and make effective use of this casebook of failure examples across the SB Group, we are considering posting a database of failure examples on our quality information system.

#### Activities Related to "Quality Assurance at Each Process"

We are using the Sumitomo Bakelite Production System (SBPS), based on the Toyota Production System, to progressively improve our product quality. One of the fundamental concepts of the SBPS is "Quality Assurance at Each Process" (not allowing defects and/or failures to proceed to the next process). In addition to manufacturing processes, we continually implement these activities with respect to raw materials procurement, product design/development, quality assurance/inspection, and sales/service processes, etc.

#### Activities to Enrich Quality-Related Education

With the aims of heightening quality awareness, restraining quality risk, and improving quality technology, we established 30 programs at the SB School\* and have used these programs to provide quality-related education to employees. The following paragraphs introduce some examples. These training activities are continuing during the current fiscal year.

\* Please refer to Human Resource Development.

#### (1) FMEA Education

FMEA courses comprise a basic course and a practical course. In the practical course, participants conducted risk analysis of practical business issues with the aims of increasing their awareness of such risks, and



FMEA Education

gaining a deeper knowledge and understanding of the importance of methods and practices for reflecting risk reduction measures in design and production processes. As a result of this training program over the past three years, the number of employees familiar with FMEA has grown, and FMEA is being applied in actual operations.

#### (2) Why-Why Analysis

In the case of issues that arise in practical business situations, we work to investigate and identify the root causes of these issues from technological and management/systems perspectives and correct them. We also go back to the surrounding frameworks to implement measures to prevent recurrences and then disseminate this information laterally to the relevant departments. In this way, each department has implemented "Why-Why Analysis". We are working to make clear the concepts and procedures behind this "Why-Why Analysis", which has been conducted in various departments, and to make it more appropriate. Our objective is then to make the effective use of this analysis by disseminating it across the SB Group and making it a regular part of practical procedures. With this as our objective, last year we held study sessions with practical issues as the themes, and many participants attended. In addition, this fiscal year we are moving ahead with the preparation of guidelines and standardizing related procedures across the SB Group.

## **Chemical Substance Management**

Sumitomo Bakelite takes environmental, safety, and health issues into consideration throughout all stages of the product life cycle—from development through disposal.

#### **Prior Assessment of New Raw Materials**

As part of the product development process, when raw materials are to be newly introduced, we are putting into place a framework for screening and registering that involves conducting prior studies of regulations in Japan and overseas and examining data on their hazardous properties. We have also established assessment criteria for banned substances and substances for which use is restricted.

#### Green Procurement and Supplying Safe Products

Consideration with regard to the chemicals contained in products throughout all stages of their life cycles, including use and disposal, has become a necessity. The EU's Restriction of Hazardous Substances (RoHS) directive and other regulations concerning the use of specified chemical substances require stronger supervision of product environmental quality management processes that also involve suppliers as well as increased information transmission. As a "Green Partner" to customers, the Sumitomo Bakelite Group is working with its customers to manage regulated chemical substances and plan the development and provision of products that do not harm the natural environment, even after their disposal.

#### Responding to Regulations Overseas and in Japan

The first registration period under the EU Regulation for Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)<sup>\*1</sup> has ended, and, beginning in December 2010, the filing of notifications under the related regulations governing "Classification, Labeling, and Packaging of Substances and Mixtures<sup>\*2</sup>" has begun. In Japan also, following revisions in the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture<sup>\*3</sup>, etc., notifications for all manufactured and imported substances have been required since April 2011.

Laws and regulations related to chemical substances in Japan and overseas are being revised one after another. To respond to requirements related to chemical substances for which there have been major changes in regulations, it has become necessary to make a transition from hazards to risk assessments in related data management. Pursuant to the revisions in content of regulations, we are moving forward with initiatives to gain an accurate grasp of increasingly complex chemical substance information to be in compliance with legal requirements and are undertaking chemical substance management on our own initiative.

- \*1. REACH (Registration, Evaluation, Authorisation, and Restriction of Chemicals): A set of regulations passed by the European Parliament and European Council regarding the registration, evaluation, authorization, and restriction of usage of chemical substances
- \*2. CLP (Classification, Labeling, and Packaging of Substances and Mixtures) Regulations: A set of regulations regarding the classification, labeling, and packaging of substances and compounds

\*3. Chemical Substance Act: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture (Japanese law)

#### Supplying Chemical Substance Data

The Material Safety Data Sheet (MSDS)<sup>\*4</sup> is a data sheet that provides information on health, safety, and environmental protection. To fulfill our social responsibility as a manufacturer and supplier of plastic products, we issue product MSDSs that reflect the latest available information and are designed to ensure that customers are provided with fundamental safety information. In addition, through in-house educational programs for our own employees, we ensure that a

comprehensive set of raw material MSDSs for all materials we purchase is always available to promote the prevention of accidents and increase employees' consciousness of safety issues. Furthermore, as "the Globally Harmonized System of Classification and Labeling of Chemicals" (GHS) is adopted and advanced by countries around the world, we are working to introduce improved labeling, based on uniform hazardous substance classification standards, for all products that enables users to quickly understand important warning and reminder points with a single glance. The requirements with regard to product labels and MSDSs are becoming increasingly strict.

To respond to this, we have introduced a package system for the systematic preparation of MSDSs. Under this system, the GHS classification is selected automatically under the laws of each country, and it is possible to prepare and distribute MSDSs in the language of the relevant country.



A sample of a GHS label

\*4. MSDS (Material Safety Data Sheet): A form for entering product safety information

#### Comprehensive Chemical Substance Management System

The Sumitomo Bakelite Group is moving ahead with the development and introduction of its Comprehensive Chemical Substance Integrated Management System, which is designed to provide information on legal regulations and safety data, as regards all chemical substances, including those used in production, the handling of raw materials, and products, in its plants, R&D centers, and elsewhere, in Japan and overseas. Because the system records the raw materials and a breakdown of the chemical substances in those materials, it facilitates the simple confirmation of data related to products' environment-friendliness, safety, and compliance with laws and regulations.

We will continue to evolve and upgrade our Comprehensive Chemical Substance Integrated Management System to answer to the needs of customers around the world, who must respond to

increasingly strict legal regulations, green procurement requirements, and other related trends.



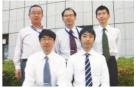
Meeting held for users in Japan

# Aiming for Fast and Accurate Chemical Substance Management

We are providing support for the comprehensive management of chemical substances from procurement of raw materials and development through to final product disposal. This means helping to ensure safety and compliance with the legal regulations of various countries of the substances that are contained in the products of the Sumitomo Bakelite Group. It also means helping

our customers to meet their needs for green procurement.

Environment & Recycling Department Chemical Substance Management Group



## **Production Innovation**

We strive to strengthen our competitiveness in Total Manufacturing Management by consolidating the Company's entire resources from all business divisions, with customers' needs in mind, thus developing products that create demands and generate profits.

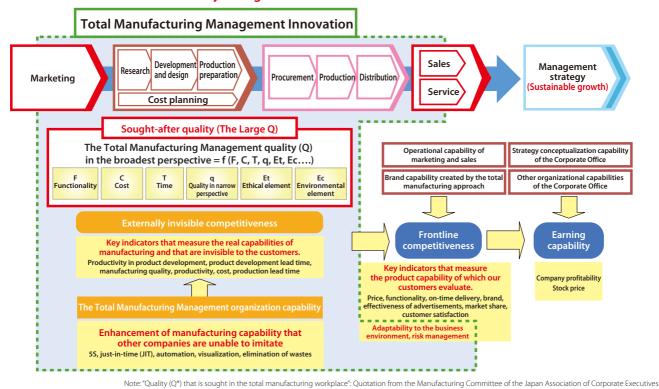
## Sumitomo Bakelite's Total Manufacturing Management (Monozukuri) Initiatives

We have been earnestly working to make improvements in our manufacturing activities since the implementation of the Sumitomo Bakelite Production System (SBPS) in 2003. However, starting from last fiscal year, in order to strengthen our "Externally invisible competitiveness = Total Manufacturing Management *(monozukuri)* capability" and our "frontline competitiveness = our products capability as evaluated by our customers," we have thereby moved away from the previous approach that had been practiced in the workplace. We, as a manufacturer, have redefined all aspects of our business processes, extending from marketing to design and development,

production, and sales as Total Manufacturing Management in the broadest perspective and thus strive to promote improvements in these business processes.

In addition to this approach, we have taken "Total Manufacturing Management (monozukuri) = creation of values (The Large Q)" that the customers and the society at large seek, which is at the same time the Quality (Q) that is sought in the total manufacturing workplace, as the Total Manufacturing Management concept that we shall pursue. We are, therefore, taking initiatives to develop the Total Manufacturing Management innovation and create "the Total Manufacturing Management culture" that we want to achieve.

### Outline of Sumitomo Bakelite's Total Manufacturing Management Initiatives By consolidating the Company's entire resources, we strive to create values (The Large Q) that the customers and the society at large seek.



## Fostering Human Resources for Total Manufacturing Management

We expand and enrich the various training programs planned for newly joined and middle management employees. Starting from last fiscal year, we also set up a new program entitled "Production Manager Training Course". This training course has been specially designed for plant managers and production managers, and it is aimed to strengthen their capabilities in Total Manufacturing Management. Internally, we have established the "Total Manufacturing Consortium," aimed at creating a crossed-business department learning environment actively.

In this fiscal year, we have also launched a new educational program aimed to develop talented individuals with strong characters (observant, thorough thinking, and decisive). At the same time, we have planned to strengthen our personnel training in overseas facilities aimed to raise the level of Total Manufacturing Management in Asia, Europe, and North America.

### What It Should Be for Total Manufacturing Management

We, as members of the SBPS Development Department, constantly strive for Total Manufacturing Management as it should be in collaboration with all related business divisions/departments.



SBPS Development Department

## Shareholders, Investors, and Business Partners

Aiming for partnerships based on appropriate information and compliance

#### Relationships with Shareholders and Investors Basic Policy for Distribution of Profits 🕢

Sumitomo Bakelite is working actively to enhance its corporate value and regards returning a portion of profits generated by its businesses to shareholders as one of its most-important management priorities. In appropriating its profits, the Company considers the balance with retained earnings that will be used for the future development of the business, such as R&D expenditures, capital investment, and M&A, and seeks to pay stable dividends in line with consolidated corporate performance. For the fiscal year ended March 31, 2011, based on this dividend policy, the Company declared an annual dividend of ¥15 per share.

#### Information Disclosure

The Company has prepared Disclosure Guidelines based on the fundamental concept of disclosing information to investors, employees, and other stakeholders on an equal, fair, accurate, and timely basis. In addition, the Company issues information in accordance with the timely disclosure standards of the stock exchanges where its shares are listed. Accordingly, the Company discloses its corporate information in a timely and appropriate manner.

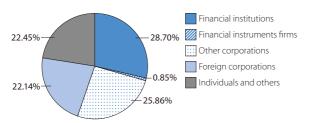
The Company is also actively disclosing information through its website. In addition to the information disclosure mentioned previously, the Company's website contains materials related to financial results, annual reports, and other information.

#### **Encouraging Exercise of Voting Rights at Shareholders' Meetings**

Beginning with the ordinary general meeting of shareholders held in June 2008, shareholders may exercise their voting rights by electromagnetic means. In addition, together with the Japanese-language versions, English translations of the notice of and proposals to be decided by the general meeting are available on the website, and the Company is working to offer such services that will make it easier for shareholders to exercise their voting rights. In addition, the results of voting on proposals at the general meeting are also available on the website.

#### Share Information

- Number of shares issued and outstanding: 262,952,394 shares
- Number of shareholders: 18,097
- Shares held by type of shareholder (as of March 31, 2011):



#### **Relationships with Business Partners**

The Company's Global Procurement Division is in overall charge of the purchasing of raw materials, fuel, and equipment for use within buildings for the Company's plants as well as domestic and overseas affiliates. For information on the Company's procurement policy, please refer to the relevant section of the Company's website.

#### **Basic Approach**

Sumitomo Bakelite works to be in compliance with the laws, regulations, and social norms of Japan and other countries and regions in which it operates and requests that its business partners also observe such compliance standards. In principle, the Company requests the concluding of basic transactions contracts with its business partners that call for the contracting parties to fulfill their corporate social responsibilities (CSR). In addition, as criteria for selecting business partners, the Company includes the performance of CSR and is working to reduce the environmental impact of business activities.

#### **Relations with Business Partners**

When selecting new business partners, the criteria established by the Global Procurement Division are followed, and the decision to commence transactions is taken after judgments related to fairness and honesty.

#### **Compliance Policy**

When commencing transactions, in addition to other matters, the Company confirms whether a potential business partner has been cited under Japan's Act against Delay in Payment of Subcontract Proceeds, Etc. to Subcontractors. In cases where the partner has been cited, the Company takes measures as provided for in this law and in its internal regulations. In addition, when new materials are adopted, the Company confirms whether such raw materials are regulated by domestic or overseas laws concerning chemical substances, and then prepares a procurement specification form for that item and registers the substance.

#### **Initiatives for Stable Procurement**

The Company's Global Procurement Division conducts surveillance of raw material manufacturing companies. The division prepares its own, original list of items for surveillance and its judgmental criteria; its attention focuses on research regarding the stability of supply. Items researched include the Company as a whole, the business in question, procurement of materials, equipment, location, manufacturing workplace, workers, and the relationship with the Company. Judgments are made based on overall consideration of these issues.

#### **Procurement Crisis Management**

The Global Procurement Division prepares lists of the location of materials manufacturing plants and keeps them up to date. When disasters occur, the statuses of the plants of companies in the affected areas are confirmed and policies are formulated for responding appropriately.

At the time of the Great East Japan Earthquake in March 2011, the Company confirmed the status of business partners in the affected areas and identified the relevant raw materials. With the cooperation of its business partners and in collaboration with the relevant internal Company divisions, the Company implemented measures to minimize the impact on its production activities.

## **Employment and Human Rights/Human Resource Development**

Sumitomo Bakelite respects the personality and human rights of each person and aims to create workplaces conducive to work.

The Sumitomo Bakelite Group strives to recruit a workforce with diverse values and personalities, facilitate each employee's selfexpression, and provide workplaces that are enriched both physically and esthetically.

### Number of Employees of the Sumitomo Bakelite Group 🧭 **Employees in Japan and Overseas**

(Employees in Japan as of March 31, 2011; Overseas employees as of December 31, 2010)

	Directors	Executive Officers	Employees	Temporary Employees	Total
Parent company	10	10	2,313	348	2,681
Group companies in Japan	24		683	105	812
Overseas Group companies	31		4,673	1,221	5,925
Total	65	10	7,669	1,674	9,418

Note: Part-time and other non-regular employees

#### **Employees by Geographic Area**

(Employees in Japan as of March 31, 2011; Overseas employees as of December 31, 2010)

Japan	Europe	North America	East Asia	Southeast Asia	Total
3,493	336	358	1,964	3,267	9,418

## Recruitment Activities of Sumitomo Bakelite

#### **Employees Newly Recruited**

(Including new graduates and mid-career personnel)

	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011 (Plan)
Newly recruited	44	43	59	54	42	40
Male	40	34	46	45	29	_
Female	4	9	13	9	13	_

Notes: 1. Excludes personnel transferred from domestic subsidiaries and affiliates

2. Since employee recruitment is now conducted without regard for gender, the number of persons scheduled to be employed by gender in 2011 is still undetermined

### **Providing Continuing Employment Opportunities** for Staff Members beyond Retirement Age 😡

Accompanying the enactment in April 2006 of the "Revised Act on Stabilization of Employment of Elderly Persons," we revised our internal regulations to enable staff members who have passed the mandatory retirement age of 60 years and wish to continue working to become contract employees. The revisions are designed to facilitate post-retirement hiring and promoting greater use of the knowledge, technical skills, and know-how that employees have accumulated over their careers.

#### **Staff Members beyond Retirement Age**

	FY2006	FY2007	FY2008	FY2009	FY2010
Number of retirement-age retirees	60	67	71	61	72
Number of postretirement rehires	27	40	46	40	46
Rehiring ratio	45.0%	59.7%	64.8%	65.6%	63.8%

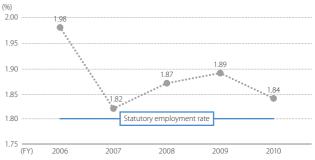
#### **Retirement Benefit Obligations**

Regarding retirement benefit systems, the Company employs a defined benefit system in Japan. Overseas, some consolidated subsidiaries concurrently use defined contribution and defined benefit systems. At the end of the fiscal year covered by this report, retirement benefit obligations of the Company and its subsidiaries totaled ¥26.9 billion, while pension plan assets amounted to ¥20.2 billion.

Note: For details, please access the Securities Report (Yuka Shoken Hokokusho) on the Sumitomo Bakelite website

### Employment of People with Disabilities 😡

Sumitomo Bakelite considers the employment of people with disabilities to be an integral part of its corporate social mission, as established by law. Sumitomo Bakelite endeavors to give necessary consideration to enabling such persons to work despite their disabilities, and, as with its other employees, strives to create safe and secure working environments to enable them to continue to make use of their capabilities and develop their skills. The Company continues to recruit such persons at a minimum of once each year to ensure that it is in compliance with legal guidelines.



## Employment Rate of People with Disabilities over the Past Five Years

#### Initiatives to Achieve a Work/Life Balance

In 2008, Sumitomo Bakelite formed its Work/Life Balance Labor Study Group with the following aims to consider effective policies and begin to implement those that are possible.

- (1) Promote flexible approaches to work and, by reducing overtime hours and promoting the use of annual leave allocations, use the time made available for non-work activities, such as selfimprovement studies and activities related to the family and the community
- (2) Make available a greater diversity of working styles that will help employees who must deal with major life events, such as marriage, childbirth, and raising of children, and thus contribute to nurturing the development of the next generation

During the current fiscal year, agreement was reached to increase the number of accumulated annual paid vacation days (which are defined as annual unused paid vacation days accrued within the past two years) that may be carried over from 30 days to 40 (beginning from January 2012). This is expected to provide support for the promotion of a good work/life balance.

### Number of Overtime Hours Worked and Vacation Days of Regular Employees 🛛 🐼

	FY2006	FY2007	FY2008	FY2009	FY2010
Average number of overtime hours (annual basis)	259.2	249.5	240.8	107.5	158.3
Average number of vacation days used	12.5	12.8	13.7	13.0	12.8

Note: "Regular employees" include personnel working in the daytime hours but excludes personnel in managerial positions

## **Employment and Human Rights/Human Resource Development**

#### Support for Raising Children

Sumitomo Bakelite places emphasis on creating a workplace environment where employees can balance various important events in their lives, such as bearing and raising children, with their work activities. The Company has introduced a series of employee benefit systems to make this possible. These include the provision of shorter working hours for use by employees with children through the end of primary school, the expanded usage of accumulated annual paid vacation days for use when bearing and raising children, and a system for taking time off for raising children and receiving out-patient hospital care. The system for shorter working hours, in particular, has steadily come into wider use by employees in offices located in urban areas where the percentage of nuclear families is relatively high.

As a result of these activities, during the current fiscal year, the Company received a certification from the Ministry of Health, Labour and Welfare as a company supporting child rearing and permission for using the *"Kurumin"* mark shown on the right.



## <Voices of System Users> With the support of all in my workplace, I am doing my best to continue my work and raise my children.

In spring last year, I completed my second leave for raising my children, and, after returning to work, I am using the "system for shorter working hours for child rearing." Because of the kind understanding and cooperation of my fellow workers, I am able to balance my work and child-rearing activities and am enjoying a sense of fulfillment each day.

Also, sometimes I have to take some days off when my children suddenly become sick; so, I use not only paid vacation days, but also I intend to use another system for "time off for nursing children through illnesses" for additional time off.

I am truly grateful to my fellow workers always and doing my best every day to work as efficiently as I can.



**Ryoko Suzuki,** Employee in the Human Resource Development Department and Sumitomo Bakelite Health Insurance Society

#### **Health Management**

Sumitomo Bakelite strives to create workplaces that facilitate the work activities of employees as well as maintain good physical and mental health. Our programs in this regard center mainly on regularly scheduled health checks and health guidance based on the results of those examinations. By gaining a proper understanding of the results of these diagnoses and receiving guidance from in-house and outside industrial health staff, our efforts to prevent and correct lifestyle problems have generated tangible results. In addition, we schedule days on which employees can receive health consultation at their own discretion, and industrial health staff provide advice on physical and mental health issues.

This fiscal year in particular, we have started to review the health examination items, and, beginning with the health exam in fiscal 2011, we are making preparations to add blood tests for pepsinogen for the early detection of stomach cancer and tests of the e-GFR level for the early detection of chronic kidney disease.

Through these various measures, we assist employees in living healthy lives and provide total backup for them in health-related matters not only in their work but also including their daily lives. Based on the awareness that health enhancement requires both the supervisory efforts of the Company and the indispensable preventive efforts of each and every employee, we also place emphasis on staff health education. Especially in the field of mental health, where the importance of early "awareness" is important, we offer a basic course in mental health aimed at all employees and further opportunities for study via an e-learning course in 2010. In addition, we call on personnel at the managerial level who are responsible for managing other employees to attend courses related to maintaining and showing concern for the mental health of those employees under their direction. These educational programs are held each year, and they are used for gaining further knowledge as well as brushing up knowledge gained previously.

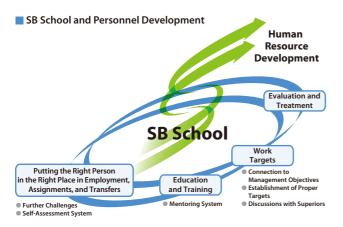
#### **Human Resource Development**

The human resources that Sumitomo Bakelite seeks to hire and foster are people who understand the Company's basic policy—"We value trust and maintain steadiness. Based on this, we strive through our business activities to make contributions to social progress and improvements to the quality of life worldwide."—and its mission of "becoming an excellent global company" and can make a contribution with their own initiative to the sustainable growth of Sumitomo Bakelite's business activities.

Specifically, the following are key characteristics of the autonomously motivated personnel we seek.

- People who are growth-oriented and have the drive to acquire new skills and knowledge necessary for their jobs;
- (2) People with a pro-reform stance who are not satisfied with the status quo, but are always looking for ways to do a better job;
- (3) People with a team-oriented approach who can combine their individual strengths with the strengths of those around them to deliver better results; and
- (4) People with outstanding skills and know-how who can produce results in jobs both in and outside of Japan as professionals.

In September 2007, we opened the Sumitomo Bakelite School (SB School), which is designed to provide lifelong education and training courses that help the Sumitomo Bakelite Group realize sustained growth in business operations as well as rise in corporate value. It provides courses for all grades of employees from all departments involved with business activities. These courses include "all-employee education" courses that confirm and reinforce employees' awareness of basic management principles as well as fundamental knowledge about such issues as compliance, human rights, occupational safety, quality, and environmental protection. The school is also planning and methodically implementing various other kinds of educational and training courses. From the time the SB School commenced its activities in September 2007 through April 2011, the cumulative total number of attendances at its courses has been about 90,000, and the number of hours of instruction has been approximately 160,000. Going forward, the SB School will implement a wide range of education programs that enhance the knowledge and the skills of Sumitomo Bakelite Group personnel. As business becomes increasingly global and borderless in the 21st century, Sumitomo Bakelite is actively striving to develop the capabilities of each employee—the Company's most precious management resource—through sustained development as a "Global Excellent Company."



#### Education for All Employees: "Workplace Human Rights"

Every December, at the time of "Human Rights Week," which the government has designated, the Company conducts a "Workplace Human Rights" course. This course aims to have employees gain a proper understanding of the issues of discrimination and various forms of harassment, and provides training that focuses around heightening the awareness of human rights in the workplace, which is an area where the Company must take initiatives. The goals of this education include having each and every employee show respect for one another's human rights and foster a stance among employees of working to create a bright and pleasant workplace. In addition, training in this area is offered by employee level, and the

content is adjusted to suit various groups, including young employees and those assuming their first managerial-level positions, with the aim of raising the awareness of all employees about the need for respecting human rights.



Employee training textbooks

## Diverse Education and Training Programs in Overseas Business Sites

In its overseas business locations, the Company offers many types of educational courses, from environmental safety, compliance, the basic education of the Sumitomo Bakelite Production System (SBPS), and various kinds of human skill training in Sumitomo Bakelite Singapore to basic technical education at Sumitomo Bakelite Vietnam, and other courses.





Change management course in progress



A managers' education class

At Sumitomo Bakelite (Taiwan), the Company also provides training for responding to chemical substance regulations, training for usage of forklifts, change management education, and other courses. Of these, the course in "change management" is conducted to provide for cases where there are changes in work methods and rules as a result of improvement, quality circles, and other activities. The objectives of the course are to teach proper management methods when changes occur, including thorough confirmation at an early stage of various possible risks and implementation after confirmations are made. These training courses help to increase the quality of work processes and provide instruction directly related to practical work situations.

Also, employees from overseas business sites take part in training conducted in Japan. All employees receive training in basic items via e-learning, but participants from overseas also attend training sessions for managerial-level staff conducted in Japan by various departments.

## Aiming for Sustained Growth of the Group and Optimization of Production Processes

Taking the course in change management helped me to have a much-deeper understanding of the importance and necessity of managing change. I became aware that even one change can have a major impact on quality, and I want to follow the Company's rules always and implement all processing and assessment steps without exception. I am fully aware that in all areas of quality, efficiency, and costs within a reasonable scope, if we can move ahead with improvements, then I believe these improvements will lead to the maximization of profit. Through these educational training programs, I want to make these skills part of my knowledge to make it possible for the Sumitomo Bakelite Group

to achieve sustained growth and the optimization of its production processes.

> **Lo Chia Wen,** Assistant Section Chief Quality Control Division Sumitomo Bakelite Taiwan



## **Occupational Safety and Health**

Under the slogan of "Safety First," putting maximum priority on safety in operations

Sumitomo Bakelite is continuing to implement improvements in its activities, and, through the cooperation of management and labor, is working to make the Occupational Health and Safety Management System (OHSAS-18001) and international machinery safety standards ISO 12100 and ISO 14121 integral parts of its operations.

## **OHSAS-18001** Certification

Sumitomo Bakelite received this certification in 2009 for its principal plants in Japan (Utsunomiya, Kanuma, Shizuoka, Nara, Amagasaki, Akita Sumitomo Bakelite, and Kyushu Sumitomo Bakelite.

Beginning in 2010, preparations began for obtaining this certification at overseas subsidiaries, and Sumitomo Bakelite Singapore, Indopherin Jaya, Sumitomo Bakelite Vietnam, Sumitomo Bakelite (Thailand), Sumitomo Bakelite (Suzhou), and Sumitomo Bakelite Macau have already been certified.

## Activities to Reduce Risks of Machinery and Equipment

Beginning in 2008 in plants and Group companies in Japan and in 2009 at overseas companies, new machinery and equipment have been designed to comply with ISO 12100. For existing equipment, risk assessments have been conducted, and improvements are being made according to plan.

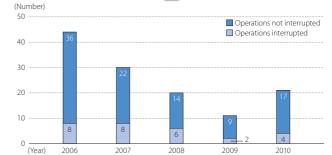
## Promotion of Occupational Health and Safety

In parallel with measures to reduce the risks inherent in machinery and equipment, Sumitomo Bakelite is continuing its danger alert training that it began in prior years as well as such autonomous initiatives as "pointing and calling" as well as proposals for special caution and safety confirmation. The objectives of these activities include increasing sensitivity to possible danger and eliminating careless behavior.

## Trends in Occupational Accidents Trends in Occupational Accidents at Sumitomo Bakelite and Domestic Subsidiaries and Affiliates

The following graphs show trends in data on industrial accidents, including subsidiaries and affiliates. During fiscal 2010, there were 21 industrial accidents, which was unfortunately an increase over the previous fiscal year.







\* Frequency rate = (Deaths and injuries/total working hours) x 1,000,000

Notes: 1. Data are compiled from all domestic business sites listed on page 1, and exclude workers who are not employees of the Company. Group data have been compiled only since 2003.

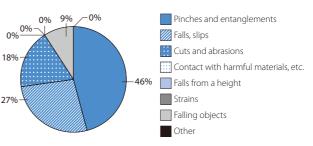
2. Data are compiled from January through December of each year.

## Occupational Accidents by Type

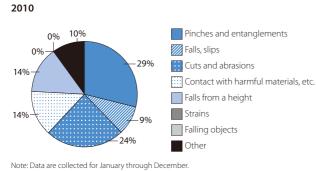
### (Comparison of Fiscal 2009 and Fiscal 2010)

In 2010, we were successful in reducing the percentage of accidents due to pinches and entanglements and other improper contact with machinery from 46% to 29% because of activities to reduce risk of machinery accidents based on ISO 12100, the international machinery safety standard. Going forward, by combining measures to further raise the awareness of safety among employees, we will continue to reduce labor accidents.





Note: Data are collected for January through December.



Trends in Occupational Accidents at Overseas Subsidiaries and Affiliates

Labor accidents at overseas subsidiaries and affiliates are steadily declining as a result of the implementation of OHSAS-18001 and ISO 12100.

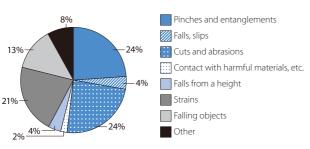


Note: Data are compiled from all overseas business sites listed on page 1.

#### Occupational Accidents by Type 😡

Compared with accidents in Japan, the percentage of accidents involving pinches and entanglements with machinery as well as cuts and abrasions is about the same, but the ratios of accidents due to strains and falling objects were higher. As in Japan, the Company will work to reduce such accidents by taking steps to increase safety awareness among employees.

## 2010



# Safety and Health Activities at Plants in Japan and Overseas

Sumitomo Bakelite's Utsunomiya Plant received the Fiscal 2010 Award for Superior Labor Health, which is given in recognition of health and safety activities in collaboration with regional communities.







A labor health education training session, given by the Japan Industrial Safety & Health Association, for employees working in areas with high noise levels (at Yamaroku Kasei Industry)

Training session on the use of protective masks given by the mask manufacturer (at the Shizuoka Plant)

## Surveillance of Safety, Health, and Disaster Prevention

To confirm the status of safety and health, safety maintenance and disaster prevention as well as legal compliance, and related education and training programs at business sites in Japan as well as at domestic and overseas subsidiaries and affiliates, the Company conducts related surveillance activities. In fiscal 2010, these activities were conducted in Japan at five business loca-

tions and three subsidiaries as well as, overseas, at 12 subsidiaries in the rest of Asia, three subsidiaries in Europe, and five subsidiaries in North America.



Surveillance activities in progress (Durez Corporation in Manchester)

## **Environmental Audits and Environmental Education**

Sustaining activities to improve environments of local communities and workplaces

#### **Environmental Audits**

Every year, we conduct environmental audits to investigate the preventive measures being taken for environmental protection, legal compliance situations, and status of energy conservation activities of all the Company's business sites in Japan as well as Group companies in Japan and overseas.

#### In Japan

Regarding fiscal 2010, we conducted environmental audits of six domestic Group companies during August 2010 and January 2011, while environmental audits of seven domestic business sites were conducted during October 2010 and January 2011.





5.B. Techno Plastics



Kyushu Sumitomo Bakelite

Advanced Technologies R&D Laboratory

#### Overseas

During fiscal 2010, audits were undertaken of the environmental protection activities and legal compliance situations of three subsidiaries or affiliates in Europe in September and six subsidiaries or affiliates in China and Taiwan in December.







Sumitomo Bakelite Europe (Barcelona)







Sumitomo Bakelite Macau





Sumitomo Bakelite (Taiwan)

Sumitomo Bakelite (Nantong)

## Environmental Education Group Education Programs

At our R&D center and plant, to protect the environment in the vicinity of the plant and enable employees to work in safety, we

work to deepen understanding of the nature of chemical substances and the content of legal regulations, and, to enable employees to respond appropriately, we conduct periodic group education programs.



New employee education

#### E-Learning

In addition to group education programs, we have declared June to be Environmental Emphasis Month. To promote awareness regarding environmental issues among employees, we conduct environmental education via e-learning courses that are available for all personnel. These e-learning courses covered

a wide range of topics in fiscal 2010, including legal regulations, international trends such as biodiversity, energy issues, as well as chemical substance management.



An e-learning course computer screen

# **Safety and Accident Prevention**

Continually moving ahead with the creation of "safe and secure plants"

# **Aiming to Create Safe and Secure Plants**

At production plants, top priority is given to safety and disaster prevention measures. Aiming to create "safe and secure plants" able to earn the trust and confidence of local society, ensure the safety of employees, and provide customers with steady supplies of products, we create action plans at each of our plants and continually implement education and training programs designed to maintain a record of zero accidents and zero disasters. Moreover, to prepare for the possibility of an accident, we undertake disaster countermeasure training with the objective of minimizing damage.

# Overview of Safety and Disaster Prevention Training Activities at Domestic and Overseas Plants

Examples of Cooperation with Local Communities in Conducting Disaster Prevention Activities



Awards received from Yaizu and Fuijeda cities (Shizuoka Plant)



Training in firefighting and evacuation provided by local fire department members (Sumitomo Bakelite Thailand)

Prevention Activities Led by Outside Instructors

General training session on dangerous substances provided by members of the local fire department (Shizuoka Plant)



Participation in fire extinguishing competition in Utsunomiya (Utsunomiya Plant)



(SNC Industrial Laminates)

Training for fire brigades

(Akita Sumitomo Bakelite)



Model water fire extinguishing by firefighters responsible for the industrial park area (Sumitomo Bakelite Vietnam)



Training in firefighting and evacuation provided by local fire department members

Examples of Evacuation/Rescue Training Activities at Business Sites



Training in use of fire hoses (Kanuma Plant)



Training for use of fire extinguishers (Advanced Technologies R&D Laboratory)



Training in use of fire hoses (Sumitomo Bakelite Nantong)



Training for use of fire extinguishers (Vvncolit)



Rescue drill

(Fundamental Research Laboratory)



Rescue training (Nara Plant S.B. Sheet Waterproof Systems)

Examples of Training for Firefighting, Dealing with Chemical Accidents within Plants



Training for atmospheric measurements and use of radio communications devices conducted using protective suits and gas masks (Promerus)



Sewer pop-up training to prevent flow into storm sewer (Durez Canada)



Training for dealing with leakage of chemical substances (conducted on October 18, 2010, assuming a magnitude 6 earthquake and resulting conflagration) (Akita Sumitomo Bakelite)

As a result of this practice training, personnel were able to respond quickly in the aftermath of the Great East Japan Earthquake on



Training for use of fire extinguishers



# **Exchanges with Local Communities**

Each Sumitomo Bakelite Group company works to deepen its relationship with local communities.

# Japan

# Support for training the younger generations who will take charge of the community in the future

To communicate the interesting aspects of chemistry and the joy of handicrafts to the younger generations, Sumitomo Bakelite, in collaboration with the Japan Chemical Innovation Institute (JCII), instigated the Fujieda Region Science Support Project in fiscal 2009. In fiscal 2010, we secured the cooperation of Fujifilm Corporation and the Plastic Waste Management Institute, held a science education exchange meeting with science instructors at middle schools in the Fujieda area, and conducted other activities, including the provision of plastic samples for science classes.



At the Shizuoka Plant, we arranged plant visits for local middle school children. After giving them an overall outline of the plant's operations, the students visited an automobile parts workplace area. After the plant visit, reports prepared by the students were delivered to the plant, and the event expanded their social horizons.



During the summer each year, the Kitsuregawa Plant of Sumibe Techno Plastics, which is located in an area rich in nature, holds an environment-watching event to enable visitors to view fireflies and other beauties of nature. The plant opens a portion of its grounds to visitors, and, by enabling children to view the natural world in safe surroundings, is helping to contribute to creating a better environment.





# Activities to Preserve the Natural Environment in Regional Areas

Group plants and subsidiaries and affiliates engage in activities to clean the roads in their vicinity. At the Shizuoka Plant, to stamp out illegal waste disposal, the plant is participating in these activities as a member of community groups. In addition, employees help keep roads in the vicinity of Company housing in clean condition and are cooperating each year with community groups to keep rivers clean.





# Dialog with the Community Plant Visits for Autonomy Associations in the Vicinity

Each year, the Company's Amagasaki Plant invites the members of two local autonomy associations to visit its plant. In 2010, the visitors heard explanations of the products manufactured by the plant and the new green area on the plant's roof. Afterwards, the visitors were invited to see the plant from the inside, and the general assessment of visitors was that the plant is giving emphasis to environmental policies.



# Cooperation in Making a Training Video with the Fire Department

The Nara Plant of Sumibe Waterproof Sheet, which is located in Gojo City, is the only corporate facility in its area that has a rack warehouse and water pressure shutters. The company volunteered the use of its plant rack warehouse to film a training video for young firefighters.



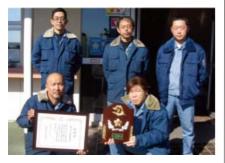
### **Public Invited to Summer Outing**

The Shizuoka Plant actively engages in dialogue with the regional community. As part of these activities, in August, the plant sponsors a summer outing to have fun and "cool off" from the hot summer weather. In addition to extending invitations to employees and their families, the plant invites members of the surrounding community to join in.



# Business Locations Cooperate with Fire Brigades

People in the community rely on the team spirit and agile responsiveness of their local fire brigades to protect their lives and property. Employees of the Shizuoka Plant participate actively in the fire brigades in their communities, and members of brigades in Yaizu and Fujieda received awards at an annual kickoff ceremony. Nine members of the Fujieda brigade and five members of the Yaizu brigade are registered firefighting members and active in community firefighting.



# Activities Contributing to the Community

Holding Rice-Cake Pounding Events to Entertain Residents of Welfare Facilities

Employees of the Shizuoka Plant visited the Nambu Sumire no le welfare facility in Fujieda again this year to hold a rice-cake pounding event. Altogether, 40 employees and members of their families participated. Even though using a wooden pounding mallet and container is hard work, everyone had a good time as they worked together with the people and staff of the welfare facility.



## **Tulip Bulb Planting**

Each year, 22 employees of Kyushu Sumitomo Bakelite volunteer to participate in a tulip bulb planting event. After the flowers bloomed in April, the Nogata City Tulip Fair 2011 was held, and many visitors came from the city and other areas to view the tulips.



# Overseas

# Environmental Preservation Activities Tree Planting

Employees of Indopherin Jaya participate in the tree-planting activities, which are part of greening and beautification movements in Probolinggo City.

Participants in these activities include the city hall, the army, schools, companies, and others from the surrounding areas. Eleven personnel from the Group participated this year.



### **Park Beautification Activities**

In the vicinity of the Dongguan Plant of BASEC, there is a park called Lintou Plaza, which is used by local people for relaxation, including walking as well as athletic and other activities. BASEC conducts the only autonomous beautification activities in the area to keep the environment of the park in beautiful and pleasant condition for use by members of the community. About 30 personnel participate in cleanup activities each month.



# **Exchanges with Local Communities**

# Overseas

# **Community Service Activities**

Sumitomo Bakelite Singapore conducts volunteer activities in its vicinity each year, and this year's activity was to provide support for elderly persons living alone with the collaboration of community volunteer groups. A total of 26 employees and their families participated in a shopping tour with the senior citizens and assisted them in purchasing everyday items.



# Dialog with the Community Donations to Earthquake-Stricken Areas

On April 14, 2010, a magnitude 7.1 earthquake struck the Yushu area of the Qinghai Province in the autonomous region of Tibet and caused heavy damage and suffering to the people of the area. Natural disasters may be merciless, but the world is filled with love. One month later on May 14, Sumitomo Bakelite (Suzhou) decided to contribute 100,000RMB to the stricken area. The president of that company and the head of its labor union delivered the relief donation to the relief fund of the Suzhou Industrial Park. We sincerely hope that the people of the stricken area can recover and return to their normal lives at an early date.



# **Donation for Mosque Repairs**

Accompanying repair work on a mosque (Islamic temple) located in the industrial park, SBP Indonesia offered a polycarbonate flat sheet for use as a canopy for the structure at a cooperative price, which represented a gift of about US\$6,000 compared with usual domestic prices in Indonesia.



# Invitations to an Evening Meal

SBP Indonesia held *buka* and *puasa* (an evening meal held after one day's fasting) for its employees, and, as a sign of everyday gratitude and thanks, children in the vicinity with special family situations (such as fatherless or motherless children) were invited to the meal.



# Memberships in Leading Organizations (Qualifying Names of Groups Have Been Omitted)

Name of Organization	Role of Sumitomo Bakelite
Keidanren (Japan Business Federation)	Participates in the Nature Protection Deliberation Council, the 1% (One Percent) Club, and other activities
Japan Thermosetting Plastics Industry Association	Participates in the phenol resin/amino resin extrusion materials subcommittee, laminated panel sub- committee, phenol resin subcommittee, adhesives subcommittee, melamine resin decorative panel subcommittee, electronics materials subcommittee, and environment/recycling research subcommittee
The Japan Chemical Industry Association	Participates in the Responsible Care Committee and chemical products management committee
The Japan Plastics Industry Federation	Participates in the chemical substance management committee
Japan Plastic Sheet Association	Participates in the polyvinyl chloride sheet subcommittee, corrugated sheet subcommittee, PC sheet subcommittee, environmental committee, and Japan PCV Environmental Affairs Council as a member of environmental committees
Japan Electronics Packaging and Circuits Association	Participates in the raw materials committee, pharmaceutical law committee, distribution committee, microbe reduction committee, and other committees
Japan Medical Devices Manufacturers Association	Participates in the chemical substance safety, environmental committee
Japan Chemical Exports and Imports Association	Chemical Safety/Environmental Committee

# Advanced Technologies R&D Laboratory (Former Kobe Fundamental Research Laboratory)

#### Address:

1-1-5 Murotani, Nishi-ku, Kobe-shi, Hyogo

Number of employees: 74 Commencement of operations: 1991 Site total area: 16.530m<sup>2</sup> Date ISO 14001 certification received: December 2003

Principal R&D themes:



Research and development in technologies for bioplastics and other bio-related products 



Managing Executive Officer Sumitoshi Asakuma

Aiming to create environmentally responsive technologies, our laboratory is engaged in R&D related to the use of plant-derived materials that can be used as biomass resources in place of petroleum. To pave the way for the formation of a recycling-oriented society, we are seeking to commercialize materials that offer functionality together with low levels of environmental impact.

In addition, as a result of our progress in reducing waste product volume and promoting recycling, most of our waste products are now recycled, with the exception of certain types of waste products. Each year, we organize occupational safety and health and environmental education programs for all employees. We have good relationships with surrounding communities, and we are proactively participating in such local programs as neighborhood cleanup campaigns and industrial park-based disaster prevention drills. We employ numerous people with physical disabilities at our laboratory, and the share of such people in our workforce is close to 10%



A summer outing held at High-tech Park

#### <Air> No relevant facilities

# <Water> Released into sewers

Item	Unit	Regulatory limit	Actual measurement	
рН	—	5–9	6.4–8.1	
BOD	mg/L	2,000	4	
COD	mg/L		6	
n-hexane extract	mg/L	5	Less than 1	
Suspended solids	mg/L	2,000	2	

#### Shizuoka Plant

#### Address:

2100 Takayanagi, Fujieda-shi, Shizuoka

Number of employees: 980 Commencement of operations: 1962 Site total area: 287,000m<sup>2</sup> Date ISO 14001 certification received:



Copper-clad epoxy composite sheets, epoxy coating powder, industrial-use phenolic resins, melamine resin decorative laminates, formalin, molds and dies, etc. 



March 1999

**Principal products:** 

Responsible for manufacturing a broad lineup of products ranging from resins and other materials to such thermoset resin products as molded components and laminated sheets, the Shizuoka Plant is working every day to reduce the amount of environmentally impact substances associated with all processes from development of new products through the commercialization of those products.

Goichiro Kuwaki

Recognizing that taking action to ensure that all aspects of our business operations promote environmental protection and ensure safety and health is part of our corporate responsibility to the society of tomorrow, we are contributing to society by autonomously and continuously organizing environmental protection activities in which all of our staff participate.





of the Kariva City Labor Standards Association

An observation-study tour of members A summer outing open to the general public

# <Air> 😡

	Facility	ltem	Unit	Regulatory limit	Actual measurement
	Cogenera- tion boiler	SOx	K-value	10 or less	Less than 0.2
		NOx	ppm	100	44
		Soot and dust	g/m³N	0.05	Less than 0.012

#### <Water> 🥑

Unit	Regulatory limit	Actual measurement
—	5.8-8.6	7.1–8.2
mg/L	15	1.9
mg/L		3.9
mg/L	3	Less than 0.5
mg/L	30	6.8
	mg/L mg/L mg/L	Unit         Timit            5.8–8.6           mg/L         15           mg/L            mg/L         3

Note: Additional information related to water guality is shown in the "Site-Specific Environmental Impact Data" section on pages 57 and 58 of the web version.

• Photographs of plant managers and presidents of affiliated companies shown in the Site Report are those of the persons who were holding those positions as of March 31, 2011. • The web version contains site reports on 33 business locations. Because of the large number of measurement items, a complete set of measurement figures for individual business sites has not been included in the individual reports. Additional data is shown in the "Site-Specific Environmental Impact Data" section on pages 57 and 58 of the web version. Notes: 1. The regulatory limits are the most-stringent regulations imposed by ordinances, regional agreements, administrative guidance, and other reguirements issued by governmental authorities.

2. Actual measurements are the maximum levels recorded in fiscal 2010. Please note that, in the case of pH figures, the minimum and maximum levels are shown 3. When actual measurements are below the quantifiable limits, the amounts are shown as "less than (the quantifiable limit)." When the substances in question were not detected, the amounts are shown as "not detected."

4. For domestic business sites, figures are shown for a limited number of commonly applicable items. A hyphen is shown for the items with no regulatory limit, and figures for the "Actual measurement" represent the results of voluntary measurement at the sites

# **Kanuma** Plant

# Address:

7-1 Satsuki-cho, Kanuma-shi, Tochigi Number of employees:

366

Commencement of operations:

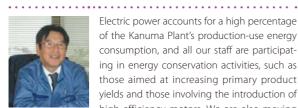
1970

Site total area: 75,878m

Date ISO 14001 certification received: March 2000

#### **Principal products:**

Hard resin sheets made from such materials as PC, PS, PET, ABS, PVC; waterproofing materials incorporating waterproofing processed steel products



Managing Executive Officer and Plant Manager Ryuzo Sukeyasu

Electric power accounts for a high percentage of the Kanuma Plant's production-use energy consumption, and all our staff are participating in energy conservation activities, such as those aimed at increasing primary product yields and those involving the introduction of high-efficiency motors. We are also moving ahead with the development of environmentfriendly products—such as LumiKing® light guide sheets incorporating LED lamps, polycarbonate sheets that enable highly efficient hot-wire cutting processes, and corrugated sheet products that meet Eco Mark standards—as a part of our efforts to reduce our environmental impact.





One of the plant's teams participating in a firefighting competition organized by the Kanuma Municipal Fire Department came in third in the competition.

# <Air> 🧭

Facility	ltem	Unit	Regulatory limit	Actual measurement
Boiler	SOx	K-value	8.0	7.6*
	NOx	ppm	180	130
	Soot and dust	g/m³N	0.30	0.011

\* This figure comes from the volume of SOx emissions calculated based on the sulfur content of fuel oil A.

#### <Water> 🥑

Item	Unit	Regulatory limit	Actual measurement
рН	_	5.8-8.6	7.1–7.6
BOD	mg/L	20	12.0
COD	mg/L	20	3.4
n-hexane extract	mg/L	5	Less than 1.0
Suspended solids	mg/L	40	4.8

# **Utsunomiya Plant**

# Address:

20-7, Kiyohara Kogyo Danchi, Utsunomiya-shi, Tochigi Number of employees:

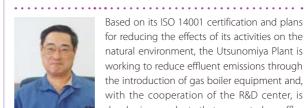
391 Commencement of operations: 1984 Site total area: 99,000m<sup>2</sup> Date ISO 14001 certification received:

December 1997

**Principal products:** 



Photosensitive wafer coating resins, semiconductor die bonding pastes, liquid resins for semiconductor packaging, semiconductor bonding tapes



Based on its ISO 14001 certification and plans for reducing the effects of its activities on the natural environment, the Utsunomiya Plant is working to reduce effluent emissions through the introduction of gas boiler equipment and, with the cooperation of the R&D center, is developing products that generate low effluent emissions to win increased trust and confidence from society.







Gas boilers

Pears harvested in an orchard on the grounds of the plant are donated to Utsunomiya City for distribution to welfare institutions.

#### <Air> 😡

Facility	ltem	Unit	Regulatory limit	Actual measurement
Drying furnace	SOx	m³N/h	1.22	Less than 0.017
	NOx	ppm	_	19
	Soot and dust	g/m³N	0.20	Less than 0.001

#### <Water> 😡

Unit	Regulatory limit	Actual measurement
_	5.8–8.6	7.5–7.9
mg/L	25	1.1
mg/L	25	2.5
mg/L	5	Less than 1
mg/L	25	Less than 1
	mg/L mg/L mg/L	Timit           —         5.8–8.6           mg/L         25           mg/L         25           mg/L         5

# Amagasaki Plant

#### Address:

2-3-47, Higashi-Tsukaguchi-cho, Amagasaki-shi, Hyogo

Number of employees:

586 Commencement of operations: 1938 Site total area:

46,000m<sup>2</sup>



Date ISO 14001 certification received: October 1998

# **Principal products:**

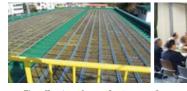
Co-extruded, multilayered films for food product packaging; Pharmaceutical products packing materials (Materials for PTP); Wrapping tape for electronic parts



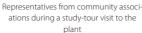
nt Manage Hidehiro Morita

After covering many of the office's roof surfaces with greenery as a measure for helping prevent global warming, we have found that the additional greenery promoted coolness around our buildings, even during the extremely hot summer weather we experienced last year. This year, we are collaborating with outside

consultants to undertake energy conservation activities designed to reduce our total energy consumption to 10% below the fiscal 2010 level within four years.



The offices's roof greenification



#### <Air> 😡

Facility	Item	Unit	Regulatory limit	Actual measurement
	SOx	m³N/h	2.94	Less than 0.04
Boiler	NOx	ppm	150	49.7
	Soot and dust	g/m <sup>3</sup> N	0.05	Less than 0.002

# <Water> 😡

Item	Unit	Regulatory limit	Actual measurement
рН	—	5.8-8.6	6.9–7.9
BOD	mg/L	25	3.1
COD	mg/L	25	5.3
n-hexane extract	mg/L	20	1.2
Suspended solids	mg/L	20	5.0

Note: Additional information related to water quality is shown in the "Site-Specific Environmental Impact Data" section on pages 57 and 58 of the web version.

# S.B. Sheet Waterproof Systems Co., Ltd. (Nara Plant)

## Address:

1-2 Techno Park, Nara Kogyo Danchi, Sugawa-cho, Gojo-shi, Nara

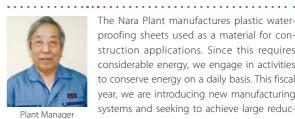
Number of employees: 63 Commencement of operations: 1991

Site total area: 20,357m<sup>2</sup>

Date ISO 14001 certification received: April 2000

# **Principal products:**

Waterproof sheets, Box-type electric sign plates



Kimimasa Nishimura



The Nara Plant manufactures plastic waterproofing sheets used as a material for construction applications. Since this requires considerable energy, we engage in activities to conserve energy on a daily basis. This fiscal year, we are introducing new manufacturing systems and seeking to achieve large reductions in our waste product generation and energy consumption. We are also proceeding with risk assessment measures designed to prevent the leakage of harmful chemicals from the plant during emergency situations.





Representatives from companies in associated industries during a studytour visit to the plant

Cooperating with the local fire department in the production of educational videos

#### <Air> 😡

Facility	ltem	Unit	Regulatory limit	Actual measurement
Boiler	SOx	m³N/h	0.74	0.03
	NOx	ppm	180	88
	Soot and dust	g/m³N	0.30	Less than 0.01

#### <Water> 🔯

Item	Unit	Regulatory limit	Actual measurement
рН	—	5.6-8.4	7.1–8.0
BOD	mg/L	50	4
COD	mg/L	50	4
n-hexane extract	mg/L	2.5	Less than 1
Suspended solids	mg/L	20	4

Note: Because wastewater flows to an industrial park treatment facility, there is no regulatory limit. The autonomously set limits are set at levels that are stricter than those specified by the relevant laws and regulations for the region in which the industrial park is situated

# Kyushu Sumitomo Bakelite Co., Ltd.

#### Address:

40-1 Oaza-Kamizakai Aza-Mizumachi, Nogata-shi, Fukuoka

Number of employees: 190

Commencement of operations: 1972

Site total area: 50,000m

Date ISO 14001 certification received: December 1998

#### **Principal products:**

Epoxy resin molding compounds for semiconductor packaging, Sumicon EME photosensitive wafer coating resins, Sumiresin Excel CRC



Arifumi Sakamoto

Kyushu Sumitomo Bakelite is moving ahead with measures to increase the range and volume of its environment-friendly product sales. We also take thorough measures to recycle waste liquids generated during manufacturing processes and are planning to further expand our waste liquid processing capabilities. Moreover, we are proactively taking measures related to the important task of electric power

conservation. Many of our employees volunteer to engage in various activities—such as those associated with a local fair that showcases the Nogata region's famous tulips, fireworks events, and sumo events-and these activities have helped deepen the roots of the





Volunteers planting tulip bulbs for the 2011 Tulip Fair



The 2010 midsummer sumo tournament cosponsored by the plant

#### <Air> 😡

Facility	ltem	Unit	Regulatory limit	Actual measurement	
	SOx	m³N/h	0.63	0.18	
Boiler	NOx	ppm	180	53	
	Soot and dust	g/m³N	0.30	0.013	

#### <Water> 😡

ltem	Unit	Regulatory limit	Actual measurement
рН		5.8-8.6	7.5–7.6
BOD	mg/L	160	28.0
COD	mg/L	80	27.0
n-hexane extract	mg/L	2.5	Less than 1
Suspended solids	mg/L	100	14.0

# Yamaroku Kasei Industry Co., Ltd.

#### Address:

19-10 Katayama-cho, Kashiwara-shi, Osaka Number of employees:

38 Commencement of operations:

1948 Site total area:

June 2005

5,411m<sup>2</sup> Date ISO 14001 certification received:

# **Principal products:**

Phenolic resin molding materials



President and Representative Director

Zenzou Kishikawa

Based on ISO 14001 standards and the Company's environmental impact reduction plan, Yamaroku Kasei Industry is reducing its energy consumption by using waste methanol recovered from manufacturing processes to fuel its boilers, and it is also using slate roofing materials to increase its buildings' thermal insulation and taking various other kinds of indirect energy conservation measures. Recently, we have moved further ahead with energy conservation measures by replacing fluorescent light bulbs in offices with energysaving cold-cathode fluorescent lamps and replacing mercury bulbs in production buildings with LEDs. We are intent on progressively accumulating the benefits from all kinds of environmental impact reduction measures, regardless of their scale.





A roof with thermal insulation improved All fluorescent bulbs in offices have been layered structure

by making the slate roof into a double- replaced with cold-cathode fluorescent lamps.

# <Air> No relevant facilities

### <Water> 😡

ltem	Unit	Regulatory limit	Actual measurement
рН	—	5.8–8.6	6.9–7.2
BOD	mg/L	25	2
COD	mg/L	25	4
n-hexane extract	mg/L	4	Less than 1
Suspended solids	mg/L	90	4



## S.B. Techno Plastics Co., Ltd.

## Head Office Plant

Address: 300-2, Motohara Kamikawa-cho, Kodama-gun, Saitama Number of employees: 32

Commencement of operations: 1964 Site total area: 13.000m<sup>2</sup>



Plastic sheets, plastic cutting boards

## Kitsuregawa Plant

**Principal products:** 

Address: 560-1, Saotome, Sakura-shi, Tochig Number of employees: 18

Commencement of operations: 2002 Site total area: 3,638m<sup>2</sup>

## **Principal products:**

Industrial-use protective helmets, floor mats



President and Representative Director Keiichi Imura S.B. Techno Plastics is maintaining its program for recovering and recycling used polyethylene kitchen cutting boards. We are also working to reuse cutting scrap waste materials generated in our carving board production facilities and have launched Ripori®, a flooring material made from recycled polyethylene that offers outstanding environmental sanitation characteristics for such applications as ice production plants. Having renovated aging

production facilities during the previous fiscal year, we have been working to achieve large reductions in the amount of energy consumed in manufacturing operations, and these efforts are expected to provide benefits with respect to the energy conservation requirements that have arisen following the Great East Japan Earthquake disaster. At Honjo City's Second Manufacturing Fair, which was held in October 2010, we created an exhibit that spotlights our environmental protection efforts as well as our products, and the exhibit has helped increase local residents' understanding of our operations.



The company's exhibit at Honjo City's Second Manufacturing Fair

Cleanup activities within an industrial park cleanup campaign

#### <Air> No relevant facilities

#### <Water> 🥥

Item	Unit	Regulatory limit	Actual measurement
pН	—	5.8–8.6	6.8-8.5
BOD	mg/L	20	7.3
COD	mg/L	_	17.5
Suspended solids	mg/L	50	23

Note: While there are no facilities subject to legal requirements, the Company reports data based on a pollution prevention agreement with Honjo City and other entities

# Akita Sumitomo Bakelite Co., Ltd.

#### Address:

27-4, Aza Nakashima-shita, Souzen-machi,

Tsuchizakiminato, Akita-shi, Akita Number of employees: 267

Commencement of operations: October 1970

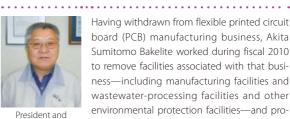
Site total area: 150,492m<sup>2</sup> Date ISO 14001

certification received: January 2001

#### Principal products:



Medical instruments and laboratory wares, phenolic resins, formalin and adhesives, flexible printed circuit boards



Representative

Director

Akira Takada

Having withdrawn from flexible printed circuit board (PCB) manufacturing business, Akita Sumitomo Bakelite worked during fiscal 2010 to remove facilities associated with that business-including manufacturing facilities and wastewater-processing facilities and other environmental protection facilities-and process a considerable volume of industrial waste generated during removal of the facilities. Going forward, although our overall energy

usage volume has been decreased, the impact of the Great East Japan Earthquake is requiring additional energy conservation measures. In response, we are continuing to organize energy conservation and waste product reduction activities in which all of our staff participate. Furthermore, we are striving to further strengthen our relationships with local communities and be a company that has deep roots in its region.



Cleanup activities nearby our plant





Cooperation (provision of parking area) with a celebration of the 100th Anniversary of the Japanese Antarctic Expedition of Lieutenant Nobu Shirase

<Air> 😡

Facility	ltem	Unit	Regulatory limit	Actual measurement
	SOx	m³N/h	3.18	0.40
Boiler	NOx	ppm	110	48
	Soot and dust	g/m³N	0.09	Less than 0.01

#### <Water> 😡

ltem	Unit	Regulatory limit	Actual measurement
рН	—	6.0-8.5	7.1–7.6
BOD	mg/L	30	7.8
COD	mg/L	30	10.0
Suspended solids	mg/L	40	11.0

Note: Additional information related to water quality is shown in the "Site-Specific Environmental Impact Data" section on pages 57 and 58 of the web version.

# Hokkai Taiyo Plastic Co., Ltd.

# Address:

2-763-7, Shinko-Chuo, Ishikari-shi, Hokkaido Number of employees: 18

Commencement of operations: 1964 Site total area:

13,650m<sup>2</sup>

Date ISO 14001 certification received: April 2005

#### **Principal products:**

Industrial-use polyethylene pipes, manufacturing/commercial/ household-use polyethylene films



President and Representative Director Harutake Ohkubo Understanding that preserving the global environment is the most important prerequisite for humankind's sustained development, Hokkai Taiyo Plastic strives to promote environmental protection in all aspects of its operations. To ensure that future generations can inherit the green and verdant land of Hokkaido—Japan's northernmost major island—in good condition, each and every one of our employees are engaging in environmental preservation activities earnestly and passionately.

. . . . . . . . . . . . . . . . . . .



Participants in a spring cleanup campaign

<Air> No relevant facilities

#### <Water> 😡

Item	Unit	Regulatory limit	Actual measurement
Hydrogen ion density (pH)	—	5–9	8.2
Suspended solids	mg/L	Less than 600	Less than 2.0
COD	mg/L	—	3
BOD	mg/L	Less than 600	Less than 2.0
n-hexane extract (mineral oil)	mg/L	Mineral oil of 5 or less Vegetable oil of 30 or less	Less than 2.0

#### **Promerus LLC**

#### Address:

9921 Brecksville Road, Brecksville, Ohio 44141-3247, USA

Number of employees:

67 Commencement of

operations:

2001 acquired by Sumitomo Bakelite Site total area: 1,020m<sup>2</sup>



#### Principal R&D themes:

New product development and fundamental research



**Robert Shick** 

Promerus enjoys a shared site with the Lubrizol Corporation that is located in a residential suburb of Cleveland, OH. As such, we are very concerned with any emissions with regard to both our corporate and residential neighbors. We are fully compliant with all OSHA and EPA regulations. As part of our new product development efforts, we are consistently trying to maximize raw material efficiencies and reduce waste as much as possible. Principal process emissions include VOCs, which are minimized using a wet scrubber, and liquid hazardous wastes, which are transported offsite for incineration. Water effluent is minimized through use of coolant recycle systems versus city water and use of electrical oil heaters versus steam heaters

#### <Air>

Item	Unit	Regulatory limit	Actual measurement
VOC emissions	tons/year	1.0	0.23

<Water> No relevant facilities

# Sumitomo Bakelite North America, Inc.

#### Address

24 Mill Street, Manchester, Connecticut 06042, USA Number of employees:

55

Commencement of operations:

1920

Site total area: 14,000m<sup>2</sup>

**Principal products:** 

Thermoset resin molding materials



Barbara Olson

At the Manchester plant, we are particularly concerned about our plant emissions (noise, air, and water) because we are located in a residential area with neighbors directly next to and across the street from the plant. Our Environmental Policy promotes pollution prevention, continuous improvement, and involvement from all employees.

#### <Air>

Facility	Item	Unit	Regulatory limit	Actual measurement
Long fiber process (Drying process)	Acetone emissions*1	tons/year	40	17.0
	SOx	tons/year	0.002	0.000
Contra	NOx tons/year		0.38	0.075
Condor process*2	CO	tons/year	0.32	0.063
(Drying process)	VOC emissions	tons/year	15	4.2
1	Soot and dust	tons/year	1.23	0.08
Total site	VOC emissions	tons/year	45	19.6
	HAPs	tons/year	25	0.01

\*1. Acetone emissions reported as the theoretical maximum based on total acetone consumption \*2. Condor emissions calculated using the natural gas billing information for Condor

<Water> No relevant facilities

# **Durez Corporation (Kenton Plant)**

#### Address

13717, U.S. Route 68, South Kenton,

Ohio 43326, USA Number of employees:

57 Commencement of operations:

1955 Site total area: 263,100m<sup>2</sup>

Principal products: Phenolic resins . . . . . . . . . . . .



Plant Manager William Bazell

The Kenton site continues to improve in areas of environmental performance and energy conservation. Last summer, we completed voluntary remediation of a 1,400 ft section of Taylor Creek contaminated by practices of the previous site owner in the 1960s and 1970s. Although none of this contamination resulted from our actions, we undertook the socially responsible action, of restoring the site to proper conditions

This year, we will upgrade controls and monitoring equipment at our biological wastewater treatment plant to allow for automatic diversion of the treated water stream if discharge parameters approach the permit limits. This project should greatly enhance our ability to avoid out of compliance discharges. We are pursuing a permit to allow land application of dewatered sludge from the wastewater treatment plant. If successful, we should be able to eliminate sending about 16 MT of sludge per month to landfill.

Additionally this year, we will upgrade significant portions of the plant's lighting to low energy consumption lamps. This project when completed will result in a reduction of 313,000 kWh annually equivalent to 97 MT of CO<sub>2</sub> emissions.

#### <Air>

Item	Unit	Regulatory limit	Actual measurement
Stack emissions (Non-Title V)	tons/year	_	Less than 10

ltem	Unit	Regulatory limit	Actual measurement
Phenols	µg/L	20	Less than 10
рН	—	6.5 - 9.0	6.9-8.2
Ammonia-N	mg/L	Less than 12 (Winter) Less than 2.25 (Summer)	2.86
CBOD	mg/L	Less than 38 (Winter) Less than 15 (Summer)	3.9
Oil & Grease	mg/L	10	Less than 5.0
Phosphorus	mg/L	_	4.25
Dissolved solids	mg/L	_	1,090
Suspended solids	mg/L	45	15
Strontium	μ/L	30,000	7,690





# **Durez Corporation (Niagara Plant)**

#### Address

5000 Packard Road, Niagara Falls, NY 14304, USA Number of employees:

47 Commencement of operations: 1930

Site total area: 18,960m<sup>2</sup>

**Principal products:** Phenolic resins





Site Manager Gerry Nardelli

The Niagara plant is fully compliant with the regulatory requirements of the Occupational Safety and Health Administration (OSHA) requirements. Furthermore, our facility is unique in that we have an on-site hazardous waste incinerator which allows us to dispose of our generated hazardous wastewater (distillate) while using it as a fuel supplement to generate steam for manufacturing purposes and building heat. The handling of hazardous waste is closely monitored by the Environmental Protection Agency (EPA) and the facility is operated under the Resource Conservation and Recovery Act (RCRA) permit requirements. Our focus is for continuous reduction of waste generation by improving our production yields and recycling cleaning solvents. Reductions in  $\mathsf{CO}_2$  emissions have also been accomplished by upgrading our combustion equipment, such as our backup boiler and thermal oxidizer (incinerator).

# <Air> No relevant facilities

#### <Water>

Item	Unit	Regulatory limit	Actual measurement
pH	_	5-10	7
Phenols	lb.s/day	35	0.050
Drainage volume	MM Gls/day	0.1	0.045
Suspended solids	lb.s/day	75	20
Soluble organic carbon	lb.s/day	800	425
Phosphorous	lb.s/day	17	0.05



# Durez Canada Co., Ltd.

#### Address

100 Dunlop Street, Ontario L2A 4H9, CANADA

Number of employees: 66

Commencement of

operations: 1970 Site total area:

93,000m<sup>2</sup>

**Principal products:** 

Phenolic resin molding materials



Plant Manager Robert Hunt

The year 2010 was an encouraging year for us as we addressed production issues in our Glass Fibre/General Purpose Production building through equipment modifications. In particular, the replacement of our belt cooling conveyor with a "slip stick" conveyor reduced associated downtime significantly. Piston sales were strong throughout the year, and we even had the opportunity to supply powder resin and flake resin into the resin business sector again. We did make it through 2010 without a recordable injury. In the environmental arena, landfill/wastes continue to be our largest challenge. Due to production problem issues and generation of unusable rework, we were double our target of 0.7% waste versus total production volume. We have a renewed focus in 2011 and are targeting a reduction from 2010's actual percent. We are also challenged with meeting new reporting regulations from the local government in 2011. We do thank all who contributed to our success in 2010.

## <Air> No relevant facilities

ltem	Unit	Regulatory limit	Actual measurement
рН	—	6.0-11.0	7.5–10.9
Suspended solids	mg/L	350	348
Phenols	mg/L	1	Less than 0.4

# N.V. Sumitomo Bakelite Europe S.A.

#### Address:

Henry Ford Laan 80 3600 Genk, BELGIUM

Number of employees: 120 Commencement of operations: 1967 Site total area: 99,000m<sup>2</sup> Date ISO 14001 certification received: January 2001 Principal products:



# Phenolic resins, polyester resins



Plant Manager Peter Arits

We are convinced that successful entrepreneurship goes hand in hand with awareness for health, safety, environment, and quality. Therefore, these pillars are incorporated in our day-to-day business activities. To assure this, SBE Genk has installed several management tools such as ISO 9001 and ISO 14001 renewed in 2010 and certified for a period of 3 years. With the support of all the Genk employees, the plant strives to continuously improve their overall programs and has now committed to obtain the safety standard OSHAS-18001 by the 2012 year-end. We are looking forward to this challenge.

#### <Air>

Facility	ltem	Unit	Regulatory limit	Actual measurement
	NOx	mg/m³N	150	113
Boiler	SO <sub>2</sub>	mg/m³N	35	16
	CO	mg/m³N	100	7

#### <Water>

Item	Unit	Regulatory limit	Actual measurement
рН	_	6–9	6.2–8.6
COD	mg/L	136	7
Suspended solids	mg/L	1,000	2
TOC	mg/L	50	1
Phenols	mg/L	3	0.00096
Chlorendic acid	mg/L	3	0.1
Hexachloro cyclopentadiene	mg/L	0.005	Less than 0.005
Monochloro-benzene	mg/L	5	0.0005
Total nitrogen	mg/L	15	2.5
Total phosphorus	mg/L	3	1.00

### Sumitomo Bakelite Europe (Barcelona), S.L.U.

### Address:

08170 Montornès del Valleès, Barcelona, SPAIN Number of employees: 89 Commencement of operations: 1949 Site total area: 19,856m<sup>2</sup> Date ISO 14001

certification received: March 2005 Principal products:



Phenolic resins, abrasives, others



As one of Sumitomo Bakelite's facilities in Europe, Montornès Plant manufactures phenolic resins for a large number of sectors, where our core business is powder resins for friction and abrasive applications. We continue working to be a compatible plant with the Belgium plant in Genk and to meet all the strict European environmental regulations. In 2005, ISO 14001 was implemented and we

Plant Manager José Miralles

received the last renewal certificate in March 2011, which has a validity period of 3 years. Last year, we implemented a new global improved safety program with the main target of zero accidents. This new system will help us in preparing our safety management system to obtain the OHSAS-18001 certificate by Lloyds Register Quality Assurance (LRQA) at the end of 2012.

The plant continues with the programs for energy saving and water consumption reduction by installing a new compressor that meets speed regulations and a reverse osmosis plant to treat steam boiler water and recuperate condensates.



Disaster prevention practice exercise in progress

Business school students touring a plant site

<Air>

Facility	ltem	Unit	Regulatory limit	Actual measurement
	SOx	mg/m³N	4,300	Not detected
Boiler	NOx	ppm	300	89
	СО	ppm	500	211

#### <Water>

ltem	Unit	Regulatory limit	Actual measurement
рН	_	6-10	6.2-8.6
COD	mg/L	1,500	1,364
Suspended solids	mg/L	750	300
Phenols	mg/L	2	0.90
Conductivity	μs/cm	5,000	4,900
Total chlorine	mg/L	2,000	1,055
Total sulfide	mg/L	1,000	777
Total phosphorus	mg/L	50	3.70



Sumitomo Bakelite Europe has two production facilities for phenolic resins in Europe, one in Belgium and the other one in Spain. The management of both plants is fully integrated and implemented action plans to comply with the strict European Safety & Environmental legislation. A new target for both plants is to further improve our Safety Management system towards an OSHAS-18001 certification in December 2012. This and next year, SBE and SBEB will do several big investments to cope with the strong growth of our business. The investments at SBEB are also in view of becoming a compatible plant with SBE in terms of quality, productivity, and fixed cost. General Manager, SBE; Manufacturing Director, SBEB Alex Geskens

# Vyncolit N.V.

#### Address:

Wiedauwkaai 6, 9000 Gent, BELGIUM Number of employees:

105 Commencement of

operations: 1992

Site total area: 20,506m<sup>2</sup>

Date ISO 14001 certification received: 1999

# **Principal products:**

Thermoset molding materials



At the Vyncolit plant, our core business is molding compounds for the automotive industries.

Plant Manager Gerard Wildeman

At this moment, we are doing the preparations for a renewal of the ISO 14001 certificate at the end of this year. Like our European colleagues, we also have a very good safety system (5 years with 0 LTAs) and we would like to confirm this by obtaining the OHSAS-18001 certificate by the end of 2012.

#### <Air>

Item	Unit	Regulatory limit	Actual measurement
Phenols	mg/m³N	20	3.6
Ammonia	mg/m³N	35	11.9
Formaldehyde	mg/m³N	20	0.1
Total dust	mg/m³N	150	2.8

# <Water>

Item	Unit	Regulatory limit	Actual measurement
Zinc	mg/L	1.4	0.462
Copper	mg/L	0.2	Less than 0.020
Phenols	mg/L	0.4	0.005
Molybdenum	mg/L	5	0.043
Total phosphorus	mg/L	14	Less than 0.15

# Sumitomo Bakelite (Suzhou) Co., Ltd.

#### Address:

140, Jinjihu Road, Start-Up Area, China-Singapore Suzhou Industrial Park, Suzhou Industrial Park, Suzhou 215021, PRC

Number of employees:

251 Commencement of

operations: 1997 Site total area:

30,000m<sup>2</sup>

Date ISO 14001 certification received: November 2001

#### **Principal products:**

Epoxy resin molding compounds for semiconductor packaging, phenolic resin molding materials



President Yoshihisa Fujimura In accordance with ISO 14001 standards, Sumitomo Bakelite (Suzhou) is working to reduce the amount of industrial waste it generates, conserve energy, and lower  $\mbox{CO}_{\! 2}$  emissions. In fiscal 2011, we are planning to move further ahead with our energy conservation and  $CO_2$  emissions reduction efforts and are considering various measures for attaining our targets, including those to convert aging facilities into energy-conserving types of facilities and those to shift from fluorescent lighting fixtures to LED fixtures. Moreover, as our plant is situated near residential areas, we are autonomously proceeding with noise-reduction measures while also taking initiatives to promote exchanges with people in local communities and proactively participate in community activities.



<Air> No measurements are made because there is no local requirement for such measurements.

disaster.

<Water> No measurements are made because there is no local requirement for such measurements.

# Sumitomo Bakelite (Shanghai) Co., Ltd.

#### Address:

No. 66, Ai Du Road, Wai Gao Qiao Free Trade Zone, Pudong, Shanghai, PRC

Number of employees: 265 Commencement of operations: 2000 Site total area: 11,644m<sup>2</sup> Date ISO 14001 certification received:



Automobile-use molded components (plastic mechanical & structural parts)

# -----



President

Tadashi Imamura

April 2007

**Principal products:** 

We have been proceeding with follow-up activities related to activities taken in response to the Head Office's environmental assessment program and—because Shanghai decided on the occasion of World Expo 2010 to further increase the rigor of its environmental regulations—we are striving to overcome waste product processing challenges while continuing the implementation of activities aimed at

responding to local regulations. We are moving ahead with educational programs designed to promote the greater awareness of environmental issues among our employees, and we are seeking to leverage this greater environmental awareness in our efforts to help heighten the level of environmental quality at our plant as well as in the bonded industrial zone where our operations are located.





Results of greenification activities

Participation in a beautification campaign in the bonded industrial zone

#### <Air>

5 H F				
Facility	Item	Unit	Regulatory limit	Actual measurement
	Toluene emission concen- tration	mg/m³N	40	0.54
	Toluene emission speed	kg/h	9	0.003
Painting booths	Total non-methane car- bon hydride emission concentration	mg/m³N	120	5.20
	Total non-methane carbon hydride emission speed	kg/h	28	0.024

#### <Water>

Item	Unit	Regulatory limit	Actual measurement
рН	—	6–9	7.22-7.24
COD	mg/L	500	38
BOD	mg/L	300	9.37
Suspended solids	mg/L	400	15
Oil	mg/L	100	0.931
Ammonium nitrogen	mg/L	40	3.38

# Sumitomo Bakelite (Nantong) Co., Ltd.

#### Address:

No. 81, Tongda Road, Port Industrial Park 3, Economic Technological Development Area, Nantong, Jiangsu, PRC

Number of employees: 73 Commencement of operations: 2009 Site total area: 33,000m<sup>2</sup> Date ISO 14001 certification received: May 2010 Principal products:



Phenolic resins



Having operated as a manufacturer of phenolic resins since 2009, we are gradually increasing our production volume of products that are sold primarily to customers within China. From the end of last year, we have begun implementing plans to construct a second phenolic molding compound production plant and an additional phenolic resin production line. Plans call for these facilities to be

completed in October 2011 and begin operating in early 2012.

Increasing our annual production levels to 20,000 tons of phenolic resins and 10,000 tons of molding compounds will inevitably promote a rise in the environmental impact of our operations, and we are, therefore, intent on redoubling our efforts to conserve energy, reduce waste product volume, and expand the scope of recycling activities.



Plant safety inspection activities imple mented in cooperation with nearby chemical-related plants

#### <Air>

Facility	ltem		Unit	Regulatory limit	Actual measurement
	Phenols	(concentration)	mg/m³N	100	0.37
Deodor-	Methanol	(concentration)	mg/m³N	190	110
izer	Formal– dehyde	(concentration)	mg/m³N	25	2.97

#### <Water>

ltem	Unit	Regulatory limit	Actual measurement
рН	—	6–9	7.5
COD	mg/L	500	45
BOD	mg/L	300	6.3
Ammonium nitrogen	mg/L	35	0.16
Phenols	mg/L	1.0	Less than 0.1
Formaldehyde	mg/L	5	0.12
Phosphorus	mg/L	8	2.15

Notes: 1. Additional information related to air is shown in the "Site-Specific Environmental Impact Data" section on pages 57 and 58 of the web version.

 Because air and water quality measurements were not performed by the government in fiscal 2010, figures for measurements performed in July 2011 are shown in the column for actual measurements in fiscal 2010.

# **Basec Hong Kong Limited**

#### Address:

Lingtou Industrial District, Qiaotou Town, Dongguan-city, Guangdong, PRC

Number of employees: 1,079

Commencement of operations: 1994

Site total area: 32,930m<sup>2</sup>

Date ISO 14001 certification received:

September 2004

**Principal products:** Precision molded products, medical instruments



Satoshi Tanamura

Our plant is engaged in the production of medical devices and molded parts, but we also conduct environment improvement activities on a daily basis. As part of our ISO 14001 program and other activities to reduce the effects of our business activities on the environment, we promote recycling and take initiatives to lower industrial waste and CO<sub>2</sub> emissions. To deepen our ties with the local community, we also provide assistance to primary schools and homes for senior citizens as well as participate in beautification activities in parks near the plant.



Approximately 30 employees participated in voluntary landscaping activities aimed at the beautification of Lingtou Plaza

<Air>

Facility	ltem	Unit	Regulatory limit	Actual measurement
	SO <sub>2</sub>	mg/m³N	500	46.5
	NOx	mg/m³N	120	73.2
Electric power generator	Soot and dust	mg/m³N	120	31.0
	Smoke blackness		Class 1	Class 1
	SO <sub>2</sub>	mg/m³N	500	60.3
	NOx	mg/m³N	400	84.5
Boiler	Soot and dust	mg/m³N	80	49.0
	Smoke blackness		Class 1	Class 1

#### <Water>

Item	Unit	Regulatory limit	Actual measurement
рН	—	6–9	7.8
COD	mg/L	100	15.6
BOD	mg/L	20	4.0
Ammonium nitrogen	mg/L	10	0.3

# Sumitomo Bakelite Macau Co., Ltd.

Address: Zona Ind. do Aterro Sanitario de Seac Pai Van Lote A, junto a Estrada de Seac, Pai Van, Coloane, MACAU

Number of employees: 158 Commencement of operations: 2003 Site total area: 27,513m<sup>2</sup> Date ISO 14001 certification received: April 2005 **Principal products:** 

Copper-clad epoxy composite sheets



President Chiyozo Yamaguchi

. . . . . . . . . . . . . . Our company's epoxy resin copper-clad laminates manufacturing plant is situated in Macao, which is seeking to promote its tourist industry. We have begun on-the-spot recycling activities as well as separated waste collection activities. We are proceeding with our previously initiated efforts to reduce waste generation, and we are concurrently implementing various measures aimed at achieving zero-pollution performance, including the regular performance of environmental measurements and zero-pollution training programs for preventing oil leaks.



Nighttime disaster prevention drill

#### <Air>

Facility	ltem	Unit	Regulatory limit	Actual measurement
Boiler/RTO (Exhaust gas combustion unit)	CO	mg/m³	1,000	33
	CO <sub>2</sub>	%	_	4.5
	NOx	mg/m³	400/120	200/130*1
	SOx	mg/m³	500	720*2
	Soot and dust	mg/m³	80/120	20

#### <Water>

ltem	Unit	Regulatory limit	Actual measurement
рН	—	6–9	7.3–8.2
BOD	mg/L	40	4
COD	mg/L	150	50
Suspended solids	mg/L	60	13
Total nitrogen	mg/L	15	10
Oil	mg/L	15	10.0
Phenols	mg/L	0.5	10.0*3

\*1. The average level of measurements for multiple emission samples was below the level required by regulations, and monitoring to confirm that the level remains below the required level will be continued going forward.

\*2. Because it was thought that incomplete fuel combustion in boilers was the cause of this measurement, air input adjustments were made to the boilers. As a result of the adjustments, the level of autonomously made measurements was brought below the level of the regulatory limit.

\*3. Phenol measurement exceeding the limit in ordinary wastewater: It is believed that phenol in exhaust gases from a paint drving tower accumulated on a factory roof and was then washed away by rainwater. A duct has been installed in the wastewater exit pipe to prevent solids from flowing through that pipe, and monitoring is being conducted to confirm the results of

Note: Additional information related to water quality is shown in the "Site-Specific Environmental Impact Data" section on pages 57 and 58 of the web version.

# Sumitomo Bakelite (Taiwan) Co., Ltd.

## Address:

No. 1, Hwa Syi Road, Ta Fa Industries District, Ta Liao, Kaohsiung, Taiwan, ROC

# Number of employees:

136

Commencement of

operations: 2000

Site total area:

24,271m<sup>2</sup> Date ISO 14001

certification received: May 2003

# Principal products:

Epoxy resin molding compounds for semiconductor packaging



President Haruhisa Toda We are working to prevent any major disasters that might have a major impact on the natural environment and are aiming to create a safe workplace where employees feel a sense of security. We control production materials from the procurement stage to the shipment of products as well as implement daily measures to eliminate defects and keep the waste of materials to an absolute minimum. In addition, to reduce CO<sub>2</sub> emissions from manufacturing activities, we are working to increase the efficiency of energy use and conserve energy, while also promoting the maintenance of green areas within the grounds of our facilities.



Disaster prevention drill

#### <Air> No relevant facilities

#### <Water>

Item	Unit	Regulatory limit	Actual measurement
рН	—	6–9	6.1–7.8
COD	mg/L	600	593
Suspended solids	mg/L	300	112

## SNC Industrial Laminates Sdn. Bhd.

#### Address:

PLO 38, Jalan Keluli Satu, Pasir Gudang, Johor, MALAYSIA Number of employees:

180 Commencement of

operations: 1992 Site total area: 60,000m<sup>2</sup>

Date ISO 14001 certification received: April 2001

#### Principal products:

Copper-clad phenolic resin composite sheets, phenolic resin laminates



Managing Director Takashi Wada



Situated in an industrial park in the Malaysian state of Johor, our plant manufactures products centered on phenolic resin copper-clad laminates. Our manufacturing operations are energy-intensive and use industrial equipment for processes, such as reaction, drying, and pressing. In view of this, we pay close attention to measures for preventing water and air pollution and are striving to increase energy efficiency, raise recycling rates, and reduce environmental impact. In these ways, we are seeking to be an environment-friendly







Fifteen employees participated in a Green Run event organized by the state of Johor.

The SNC firefighting team participated in a special three-day training course organized by the local fire department.

#### <Air>

Facility	ltem	Unit	Regulatory limit	Actual measurement
	SOx	g/m³N	0.2	0.003
Exhaust gas combustion unit	NOx	g/m³N	2.0	0.0031
	Soot and dust	g/m³N	0.4	0.179

#### <Water>

Item	Unit	Regulatory limit	Actual measurement
рН	—	5.5-9.0	5.7-8.9
Temperature	°C	40	36.7
BOD	mg/L	50	49
COD	mg/L	200	125
Suspended solids	mg/L	100	27
Phenols	mg/L	1.0	0.1

Note: Additional information related to water quality is shown in the "Site-Specific Environmental Impact Data" section on pages 57 and 58 of the web version.

# Sumitomo Bakelite Singapore Pte. Ltd.

#### Address:

1 Senoko South Road, Singapore 758069, SINGAPORE

Number of employees: 271

Commencement of operations: 1989

Site total area: 22,276m<sup>2</sup>

Date ISO 14001 certification received: July 1997

#### **Principal products:**

Epoxy resin molding compounds for semiconductor packaging, semiconductor die attach paste, semiconductor-use liquid epoxy resin



recognize the importance of promoting the right mind-set of environment protection and conservation to all staff and controlling operations to minimize environment pollution. Based on its ISO 14001 certification, we

At Sumitomo Bakelite's Singapore Plant, we

Managing Director Yukihiro Okabe

continuously seek for energy conservation measures throughout the factory, such as switching off lights during lunch hour and standardizing air-conditioning temperature settings in the offices and using of low energy consumption lamps.

Also, with participation of all employees, we pursue improvements through our internal environment audit and reduce waste by improving our product yield ratio.



Social service activity (door painting) Social service activity (nursing home visit)

#### <Air> No relevant facilities

#### <Water>

Item	Unit	Regulatory limit	Actual measurement
рН	—	6.0-9.0	7.1
Temperature	°C	45	27
BOD	mg/L	400	75
COD	mg/L	600	210
Suspended solids	mg/L	400	25
Dissolved solids	mg/L	3,000	200
Phenols	mg/L	0.5	0.03

Note: Additional information related to water quality is shown in the "Site-Specific Environmental Impact Data" section on pages 57 and 58 of the web version

# Sumicarrier Singapore Pte. Ltd.

# Address:

72 Senoko Drive, Singapore 758240, SINGAPORE Number of employees:

102 Commencement of

operations: 1988 Site total area:

6,000m<sup>2</sup> Date ISO 14001 certification received: April 1998



**Principal products:** 

Carrier tape, conductive PS sheets



Tetsuya Nakaniwa

Having engaged in the manufacture and sales of carrier tape since its founding, our company has in recent years begun manufacturing conductive PS sheets, which are a raw material for carrier tape production. We are always intent on maintaining rigorous compliance with Singapore's laws and regulations, and our ISO 14001-related efforts are progressively improving our resource and energy conservation performance.

> Currently, we are seeking to obtain Occupational Health and Safety Management System (OHSAS) certification. By increasing the environmental risk awareness of all employees, we are aiming to create a plant in which everyone can work safely and with peace of mind.



In-house fire-extinguishing training

<Air> No relevant facilities <Water> No relevant facilities

# SumiDurez Singapore Pte. Ltd.

#### Address:

9 Tanjong Penjuru Crescent, Singapore 608972, SINGAPORE Number of employees:

66 Commencement of operations: 1989 Site total area: 30,000m<sup>3</sup> Date ISO 14001 certification received: September 1998



**Principal products:** 

#### Phenolic resin molding materials



Plant Manager Fumisato Hibino

We manufacture phenolic resins. Against the backdrop of society's increasing emphasis on environmental protection, we are rigorously complying with Singapore's laws and regulations, and, in accordance with the ISO 14001 standard, we perform regular inspections and take measures to prevent air pollution as well as sound pollution affecting nearby communities. We have raised the level of production efficiency by introducing new facilities. In addition, through our daily efforts to improve product yield rates and increase employees' consciousness of environmental issues, we have striven to reduce our energy consumption and our generation of waste products



Firefighting training

Training in evacuation

#### <Air>

Facility	Item	Unit	Regulatory limit	Actual measurement
Bag filter	Soot and dust	mg/Nm³	100	21.3

#### <Water>

Item	Unit	Regulatory limit	Actual measurement
рН	—	6–9	7.2–7.6
COD	mg/L	600	44.1
Suspended solids	mg/L	400	15.0
Dissolved solids	mg/L	3,000	87.0
Oil	mg/L	160	10.0
Phenols	mg/L	0.5	0.20

# P.T. Indopherin Jaya

#### Address:

JL. Brantas No. 1, Probolinggo, East Java, INDONESIA

Number of employees: 84

Commencement of operations:

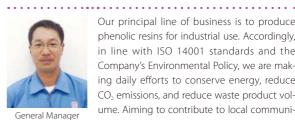
1996

Site total area: 18,000m<sup>2</sup>

Date ISO 14001 certification received: January 2001

# **Principal products:**

Industrial-use phenolic resins



Kanji Shiotsu

Our principal line of business is to produce phenolic resins for industrial use. Accordingly, in line with ISO 14001 standards and the Company's Environmental Policy, we are making daily efforts to conserve energy, reduce CO2 emissions, and reduce waste product volume. Aiming to contribute to local communities, we are proactively participating in a greenification campaign and a morning market program that are part of the community service programs of Probolinggo City.





Participating in the morning market in response to a request by the city of Probolinggo

Participating in the Probolinggo City Greenification Campaign

#### <Air> No relevant facilities

Item	Unit	Regulatory limit	Actual measurement
рН	—	6–9	6.5-8.3
BOD	mg/L	100	17
COD	mg/L	300	53
Suspended solids	mg/L	100	36
Total nitrogen	mg/L	30	10
Phenols	mg/L	1	0.09

# P.T. SBP Indonesia

# Address:

Kawasan Industri MM2100 Jl. Irian Blok NN 1-1, Bekasi 17520, INDONESIA

Number of employees: 166

Commencement of operations:

1996 Site total area:

30,000m<sup>2</sup> Date ISO 14001

certification received: December 2010

#### Principal products:

Polycarbonate resin sheets (for signage and construction applications)



Takashi Moriyama

. . . . .

We obtained ISO 14001 certification in December 2010. During the process of obtaining this certification, each of our employees was able to deepen his understanding of the company's environmental managementrelated issues, and one highly significant result of this is that the employees have begun independently considering what kinds of individual contributions they can make to our environmental management. Going forward, we anticipate that the implementation of ISO 14001 management processes will promote a further increase in our concerted companywide efforts related to environmental protection.





Dinner party at the end of a fasting period

Cooperation with the renovation of a mosque within the industrial park

# <Air> No relevant facilities

#### <Water>

Item	Unit	Regulatory limit	Actual measurement
pH	—	5.5-9.5	7.36
Temperature	°C	40	27.8
BOD	mg/L	200	39
COD	mg/L	400	125
Suspended solids	mg/L	400	34
Dissolved solids	mg/L	4,000	505
MBAS (cleanser)	mg/L	10	Less than 0.02
Oil	mg/L	10	2.8

Note: Additional information related to water quality is shown in the "Site-Specific Environmental Impact Data" section on pages 57 and 58 of the web version.

# Sumitomo Bakelite (Thailand) Co., Ltd.

# Address:

119 Hi-Tech Industrial Estate (Ban-wa),

Moo 1 T. Banlane A. Bang Pa-in, Ayutthaya 13160, THAILAND Number of employees:

82

Commencement of

operations: 2002 Site total area:

5,600m<sup>2</sup> Date ISO 14001

certification received: September 2005

#### **Principal products:**

Carrier tape for semiconductor surface mounting



General Manager Noriaki Yukawa Since our plant is located in the Ayutthaya district of Thailand, which has been designated at a UNESCO World Heritage Site, we are especially aware of the importance of efforts related to preserving the natural environment. Based on the Company's Environmental Policy, we are taking measures to save energy by increasing manufacturing efficiency, reducing industrial waste, and conserving resources. By fostering a deeper understanding of environmental impact issues, we are striving to promote concerted efforts by all of our employees to reduce our Company's overall environmental impact.





Participation in cleanup programs within the plant grounds and in the vicinity of the plant

#### <Air> No relevant facilities

Item	Unit	Regulatory limit	Actual measurement
BOD	mg/L	500	200
COD	mg/L	750	300
Suspended solids	mg/L	200	96
рН	—	5.5-9.0	7.18–7.63
Oil	mg/L	10	8.3

# Sumitomo Bakelite Vietnam Co., Ltd.

#### Address:

C-6 Thang Long Industrial Park Dong Anh Dist., Hanoi, VIETNAM Number of employees: 2,067

Commencement of operations: 2002 Site total area: 65,000m<sup>2</sup> Date ISO 14001 certification received: September 2004 Principal products: Flexible circuit boards





President Masatoshi Yamazaki

While Vietnam's environmental regulations are becoming stricter each year, based on the Company's Environment Policy, we are promoting activities that are one step ahead of the country's domestic regulations. As flexible printed circuit board manufacturing processes entail the use of large amounts of chemicals, we began chemical leakage RA training programs last year that are designed to prevent

chemical leakage, including leakage causing soil contamination. We are sustaining those training programs while working to expand the scope of benefits from the programs. In addition, we are supplementing our previously initiated production yield enhancement activities by undertaking a reevaluation of our resource consumption per unit of output, and we intend to progressively reduce our material loss volume.



Local children attending a scholarship and donation presentation ceremony organized by the Company's Community Contribution Committee

#### <Air>

Facility	Item	Unit Regulatory limit		Actual measurement	
	CO	mg/m³N	1,000	28.75	
	NO <sub>2</sub>	mg/m³N	1,000	0.41	
Boiler	NOx	mg/m³N	2,000	1.26	
bollel	SO <sub>2</sub>	mg/m³N	1,500	1.48	
	Soot and dust	mg/m³N	400	0.66	

# <Water>

Item	Unit	Regulatory limit	Actual measurement	
рН	—	6.0–9.0	5.8–7.4	
Temperature	°C	40	32	
BOD	mg/L	300	18	
COD	mg/L	350	61	
Suspended solids	mg/L	200	71	
Total nitrogen	mg/L	40	4.5	
Total phosphorus	mg/L	5	0.56	

Notes 1. Additional information related to water quality is shown in the "Site-Specific Environmental Impact Data" section on pages 57 and 58 of the web version.

2. Since fiscal 2008, there have been changes to regulatory items and levels, and we are currently considering countermeasures with respect to certain items for which measurements are not in compliance with regulatory limits. Because wastewater is processed at the industrial park's wastewater treatment pond before flowing to public water areas, there are no direct flows of wastewater to the external environment.

# Site-Specific Environmental Impact Data

In addition to the data disclosed in the "Site Report" of each individual business site, the Company has additional data that it is disclosing in this appendix.

# Sumitomo Bakelite (Nantong) Co., Ltd. (China)

# <Air>

Facility	ltem	Unit	Regulatory limit	Actual measurement
Bug filter	Particulates concen- tration	mg/m³N	120	3.7
_	Particulates speed	kg/h	3.5	0.03
Boiler	Soot and dust concentration	mg/m³N	100	2.4
	SO <sub>2</sub> concentration	mg/m³N	500	7

Note: Because air and water quality measurements were not performed by the government in fiscal 2010, figures for measurements performed in July 2011 are shown in the column for actual measurements in fiscal 2010.

#### Sumitomo Bakelite Macau Co., Ltd. (China)

## <Water>

Item	Unit	Regulatory limit	Actual measurement
Lead	mg/L	1.0	0.005
Aluminum	mg/L	10.0	0.323
Arsenic	mg/L	1.0	0.01
Cadmium	mg/L	0.2	0.05
Copper	mg/L	1.0	0.1
Iron	mg/L	2.0	3.27*
Manganese	mg/L	2.0	0.3
Mercury	mg/L	0.05	0.001
Zinc	mg/L	5.0	0.66
Nickel	mg/L	2.0	0.003
Selenium	mg/L	0.5	0.01
Carbon compounds	mg/L	1.0	0.225
Hexavalent chromium	mg/L	0.1	0.02
Chromium	mg/L	2.0	0.2
Sulfide	mg/L	1.0	0.5
Sulfate	mg/L	2,000	7
Sulfite	mg/L	1.0	1
Phosphorus	mg/L	10.0	0.2
Ammonia	mg/L	10.0	0.44
Cyanide compounds	mg/L	0.5	0.2
Nitrate	mg/L	50.0	2.27
Detergents	mg/L	2.0	0.5
Acetaldehyde	mg/L	1.0	0.1
НСН	mg/L	2.0	0.002
DDT	mg/L	0.2	0.002
PCP	mg/L	1.0	0.01
HCB	mg/L	1.0	0.004
Hexachlorobutadiene	mg/L	1.5	0.002
Carbon tetrachloride	mg/L	1.5	0.005
Chloroform	mg/L	1.0	0.005
Tetrachloroethylene	mg/L	1.5	0.005
Aldrin	ug/L	2.0	0.002
Endrin	ug/L	2.0	0.002
Dieldrin	ug/L	2.0	0.002
Isodrin	ug/L	2.0	0.002

\* It is believed that the considerable rusting of iron covers above ordinary wastewater lines was the cause of this iron content. As a countermeasure, the iron covers have been coated with a rust prevention agent.

# SNC Industrial Laminates Sdn. Bhd. (Malaysia)

# <Water>

ltem	Unit	Regulatory limit	Actual measurement
Mercury	mg/L	0.05	Less than 0.001
Cadmium	mg/L	0.02	Less than 0.005
Hexavalent chromium compounds	mg/L	0.05	Less than 0.01
Arsenic	mg/L	0.10	0.01
Cyanide compounds	mg/L	0.10	0.02
Lead	mg/L	0.5	Less than 0.05
Trivalent chromium compounds	mg/L	1.0	Less than 0.05
Copper	mg/L	1.0	0.93
Soluble manganese	mg/L	1.0	0.21
Nickel	mg/L	1.0	0.02
Tin	mg/L	1.0	Less than 0.2
Zinc	mg/L	2.0	1.09
Boron	mg/L	4.0	0.3
Soluble iron	mg/L	5.0	3.18
Chlorine	mg/L	2.0	Less than 0.1
Sulfur	mg/L	0.5	Less than 0.1
Oil and grease	mg/L	10.0	7
Formaldehyde*	mg/L	2.0	1.95
Selenium*	mg/L	0.5	Less than 0.1
Aluminum*	mg/L	15.0	0.81
Silver*	mg/L	1.0	0.04
Barium*	mg/L	2.0	0.06
Fluorides*	mg/L	5.0	4.1
Ammonium nitrogen*	mg/L	20	7
Color tone*	ADMI	200	55

# Sumitomo Bakelite Singapore Pte. Ltd. (Singapore)

Item	Unit	Regulatory limit	Actual measurement
Chloride	mg/L	1,000	39
Sulfate	mg/L	1,000	21
Sulfur	mg/L	1	0.03
Cyanide	mg/L	2	0.03
Detergents	mg/L	30	Less than 1
Oil and grease	mg/L	60	Less than 1
Caustic alkalinity	mg/L	2,000	Not detected
Fluorides	mg/L	15	3.2
Arsenic	mg/L	5	Less than 0.1
Barium	mg/L	10	Less than 0.1
Tin	mg/L	10	Less than 0.1
Iron	mg/L	50	0.6
Beryllium	mg/L	5	Less than 0.1
Boron	mg/L	5	Less than 0.1
Manganese	mg/L	10	Less than 0.1
Cadmium	mg/L	1	Less than 0.1
Chromium	mg/L	5	Less than 0.1
Copper	mg/L	5	Less than 0.1
Lead	mg/L	5	Less than 0.1
Mercury	mg/L	0.5	Less than 0.01
Nickel	mg/L	10	Less than 0.1
Selenium	mg/L	10	Less than 0.1
Silver	mg/L	5	Less than 0.01
Zinc	mg/L	10	Less than 0.1
Metals (toxic) in total	mg/L	10	0.1

### P.T. SBP Indonesia (Indonesia)

## <Water>

Item	Unit	Regulatory limit	Actual measurement
Iron	mg/L	10	Less than 0.01
Manganese	mg/L	4	Less than 0.05
Barium	mg/L	4	Less than 0.001
Copper	mg/L	4	Less than 0.004
Zinc	mg/L	10	Less than 0.006
Hexavalent chromium	mg/L	0.2	Less than 0.005
Chromium compounds	mg/L	1	Less than 0.02
Cadmium	mg/L	0.1	Less than 0.002
Mercury	mg/L	0.004	Less than 0.001
Lead	mg/L	0.2	Less than 0.025
Tin	mg/L	4	Less than 0.001
Arsenic	mg/L	0.2	Less than 0.002
Selenium	mg/L	0.1	Less than 0.001
Nickel	mg/L	0.4	Less than 0.02
Cobalt	mg/L	0.8	Less than 0.001
Cyanogen	mg/L	0.1	Less than 0.005
Hydrogen sulfide	mg/L	0.1	Less than 0.04
Fluorine	mg/L	4	Less than 0.92
Chloride	mg/L	2	Less than 0.01
Ammonium nitrogen	mg/L	2	6.509
Nitrate-nitrogen	mg/L	40	0.3
Nitrite-nitrogen	mg/L	2	0.090
Phenols	mg/L	1	0.135

Notes: 1. Regulatory limit: Standards are set by the industrial complex to which the facility belongs

2. Since water effluent is discharged into public waters after it is processed in the regulating pond of the industrial complex, water effluent in the unprocessed state is not discharged into the external environment.

#### Sumitomo Bakelite Vietnam Co., Ltd. (Vietnam)

# <Water>

Item	Unit	Regulatory limit	Actual measurement
Arsenic	mg/L	0.045	0.008
Mercury	mg/L	0.0045	0.0032
Lead	mg/L	0.09	0.0025
Cadmium	mg/L	0.0045	0.0002
Copper	mg/L	1.8	0.869
Zinc	mg/L	2.7	0.16
Nickel	mg/L	0.18	0.082
Manganese	mg/L	0.45	0.186
Iron	mg/L	0.9	0.49
Tin	mg/L	0.18	0.009
Hexavalent chromium	mg/L	0.045	0.030
Trivalent chromium	mg/L	0.18	0.131
Cyanogen	mg/L	0.063	0.042
Ammonium nitrogen	mg/L	4.5	1.5
Phenols	mg/L	0.09	0.008
Mineral oil	mg/L	4.5	0.97
Animal and plant oils	mg/L	9	0.9
Sulfated compounds	mg/L	0.18	0.29*
Residual chlorine	mg/L	0.9	2.2*
Fluoride compounds	mg/L	4.5	0.62
Chlorides	mg/L	450	631.7*
Coliform bacteria	MNP/100mL	Less than 10 (9)	2,400
Odor	—	No odor	No odor
Color	Co-Pt at pH7	20	17

Note: \* Beginning in 2008, there were changes in both items for regulation and regulatory limits, and the measures to be taken for a portion of the items that did not qualify are still under consideration. Since water effluent is disposed of in public waters after it is processed in the regulating pond of the industrial complex, water effluent in the unprocessed state is not discharged into the external environment.

#### Shizuoka Plant

# <Water>

Item	Unit	Regulatory limit	Actual measurement
Phenols	mg/L	1	Less than 0.05
Formaldehyde	mg/L	5	0.4

# Amagasaki Plant

<Water> Released into sewers

Item	Unit	Regulatory limit	Actual measurement
рН	—	5.7-8.7	5.8-9.1*
BOD	mg/L	300	230
Suspended solids	mg/L	300	140
n-hexane extract	mg/L	30	19

\* The insufficient adjustment of a boiler blow-off water pH adjustment unit caused this figure to surpass the standard. After checking and readjusting that unit, the standard condition was restored on the day of readjustment.

#### Akita Sumitomo Bakelite Co., Ltd.

ltem	Unit	Regulatory limit	Actual measurement
Phenols	mg/L	0.5	Less than 0.01
Copper	mg/L	1.0	0.12
Cyanogen compounds	mg/L	0.1	Less than 0.01
Lead and lead compounds	mg/L	0.1	Less than 0.01
Soluble manganese	mg/L	5.0	Less than 0.03

# Transfer and Release of Substances Subject to the Specified Chemical Substance Law (Fiscal 2010 Performance)

The amounts of the 34 Specified Chemical Substance Law (PRTR system\*) controlled substances released and transferred by the Company are shown in the chart below.

Government	Culture and	Amount used		Amount released		Amount tr	ansferred
order number	Substance	(manufactured)	Into air	Into water	Into soil	As waste matter	As sewage
1	Zinc compounds (water-soluble)	32	0	0	0	0	0
18	Aniline	164	0	0	0	0.4	0
31	Antimony and its compounds	87	0	0	0	4.4	0
37	Bisphenol A	213	0	0	0	0.1	0
51	2-ethylhexanoic acid	5	0	0	0	0	0
57	Ethylene glycol monoethyl ether	43	0	0	0	0.1	0
80	Xylene	52	0	0	0	14.6	0
82	Silver and its water-soluble compounds	24	0	0	0	0	0
86	Cresol	1,615	0	0	0	0.9	0
136	Salicylaldehyde	13	0	0	0	0	0
207	2, 6-ditertiary butyl-4-cresol	6	0	0	0	0	0
218	Dimethylamine	3	0	0	0	0	0
232	N,N-dimethyl formamide	384	1.9	0	0	13.7	0
239	Organic tin compounds	38	0	0	0	3.2	0
240	Styrene	6	0.3	0	0	0	0
258	Hexamethylenetetramine	1,060	0	0	0	23.7	0
265	Tetrahydromethylphthalic anhydride	174	0	0	0	0.1	0
272	Copper salts (water-soluble, except complex salts)	(6)	0	0	0	3.6	0
277	Triethylamine	14	0	0	0	0	0
300	Toluene	92	10.6	0	0	5.8	0
302	Naphthalene	2	0	0	0	0	0
309	Nickel compounds*	2	0	0	0	0	0
320	Nonylphenol	2	0	0	0	0	0
330	Bis (1-methyl-1-phenylethyl) = peroxide	6	0	0	0	0	0
349	Phenol	26,466	1.7	0	0	36.3	0
352	Diallyl phthalate	3	0	0	0	0	0
355	Bis (2-ethylhexyl) phthalate	16	0	0	0	0.1	0
368	4-tertiary butyl phenol	1	0	0	0	0	0
401	1,2,4-benzene tricarboxylic acid 1,2	20	0	0	0	1.6	0
405	Boron and its compounds	12	0	0	0	0.7	0
411	Formaldehyde	10,415	1.5	0.1	0	5.4	0
411	Tormaldenyde	(12,441)	0.1	0	0	0	0
413	Phthalic anhydride	2	0	0	0	0.2	0
438	Methylnaphthalene	5	0	0	0	0	0
448	Methylenebis (4, 1-phenylene) = diisocyanate	19	0	0	0	0	0

: Specific Class 1 designated chemical substances

\* The Pollutant Release and Transfer Register (PRTR) system

Japan's Specified Chemical Substance Law calls for companies using harmful chemical substances to gather data on the amount of harmful chemicals released into the environment and other data as a means of promoting autonomous efforts by those companies to improve their management of such substances and preventing the pollution of the environment by such substances.

# **Response to Energy Conservation/Global Warming Prevention Acts\***

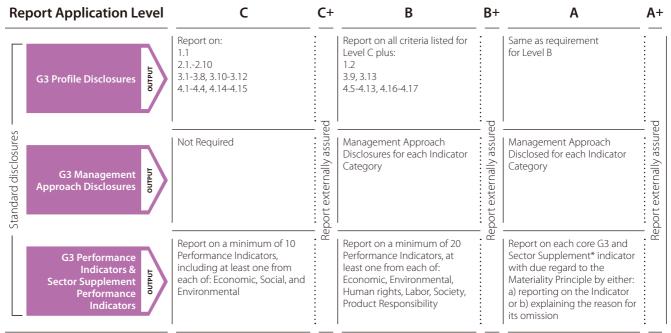
Affiliated companies that are specified corporations based on these laws regularly submit reports.

	Initiatives	Unit	2009 Performance	2010 Performance
	CO <sub>2</sub> emissions	t-CO <sub>2</sub>	5,481	6,050
Kyushu Sumitomo Bakelite	Energy usage	Crude oil equivalent: kL	3,373	3,740
	YOY change in energy usage per unit of output	%	_	96.1
	CO <sub>2</sub> emissions	t-CO <sub>2</sub>	13,003	8,583
Akita Sumitomo Bakelite	Energy usage	Crude oil equivalent: kL	5,803	3,751
	YOY change in energy usage per unit of output	%	_	123

\* The full names of these laws are the Act on the Rational Use of Energy and the Act on Promotion of Global Warming Countermeasures.

# **GRI Content Index**

With respect to the GRI Application Levels system for evaluating the level of compliance with version 3 of the GRI Sustainability Reporting Guidelines (G3), this year's *Environmental & Social Report* corresponds to Application Level B+. This self-declaration falls within the scope of items externally assured by KPMG AZSA Sustainability Co., Ltd.



\* Sector supplement in final version

ltem	Indicator	Items Disclosed on Related Pages in This Report
1. Strat	tegy and Analysis	
1.1	Statement from the most senior decision maker of the organization (e.g., CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and its strategy.	2
1.2	Description of key impacts, risks, and opportunities.	2, 16
2. Orga	anizational Profile	
2.1	Name of the organization.	3
2.2	Primary brands, products, and/or services.	3, 5, 6
2.3	Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures.	4
2.4	Location of organization's headquarters.	3
2.5	Number of countries where the organization operates and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report.	4
2.6	Nature of ownership and legal form.	3
2.7	Markets served (including geographic breakdown, sectors served, and types of customers/beneficiaries).	3~6
2.8	Scale of the reporting organization, including: • Number of employees; • Net sales (for private-sector organizations) or net revenues (for public-sector organizations); • Total capitalization broken down in terms of debt and equity (for private-sector organizations); and • Quantity of products or services provided.	3
2.9	<ul> <li>Significant changes during the reporting period regarding size, structure, or ownership, including:</li> <li>The location of, or changes in operations, including facility openings, closings, and expansions; and</li> <li>Changes in the share capital structure and other capital formation, maintenance, and alteration operations (for private-sector organizations).</li> </ul>	1
2.10	Awards received in the reporting period.	Not applicable
3. Repo	ort Parameters	
Repo	ort profile	
3.1	Reporting period (e.g., fiscal/calendar year) for information provided.	1
3.2	Date of most recent previous report (if any).	1
3.3	Reporting cycle (annual, biennial, etc.).	1
3.4	Contact point for questions regarding the report or its contents.	See back cover
Repo	ort scope and boundary	
3.5	Process for defining report content, including: • Determining materiality; • Prioritizing topics within the report; and • Identifying stakeholders the organization expects to use the report.	1
3.6	Boundary of the report (e.g., countries, divisions, subsidiaries, leased facilities, joint ventures, suppliers).	1

Item	Indicator	Items Disclosed on Related Pages in This Report
3.7	State any specific limitations on the scope or boundary of the report.	1
3.8	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities that can significantly affect comparability from period to period and/or between organizations.	1
3.9	Data measurement techniques and the bases of calculations, including assumptions and techniques underlying estimations applied to the compilation of the Indicators and other information in the report.	17, 33
3.10	Explanation of the effect of any re-statements of information provided in earlier reports and the reasons for such re-statement (e.g., mergers/acquisitions, change of base years/periods, nature of business, measurement methods).	1, 17~19, 21
3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report.	1
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3.12	Table identifying the location of the Standard Disclosures in the report.	60~62
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# **Independent Assurance Report**



# Independent Assurance Report

To the President of Sumitomo Bakelite Co.,Ltd.

#### **Purpose and Scope**

We were engaged by Sumitomo Bakelite Co.,Ltd. (the "Company") to provide limited assurance on its Environmental and Social Report 2011 (the "Report") for the fiscal year ended March 31, 2011. The purpose of our assurance engagement was to express our conclusion, based on our assurance procedures, on whether:

- the environmental and social performance indicators and environmental accounting indicators marked with 2 (the "Indicators") for the period from April 1, 2010 to March 31, 2011 included in the Report are prepared, in all material respects, in accordance with the Company's reporting criteria;
- all the material sustainability information defined by the Japanese Association of Assurance Organizations for Sustainability Information ("J-SUS") is included in the Report; and
- the Company's self-declaration on the Global Reporting Initiative ("the GRI") application level (B+) conforms to the
  application level criteria stipulated by the GRI.

The content of the Report is the responsibility of the Company's management. Our responsibility is to carry out a limited assurance engagement and to express our conclusion based on the work performed.

#### Criteria

The Company applies its own reporting criteria as described in the Report. These are derived, among others, from the Environmental Reporting Guidelines of Japan's Ministry of the Environment and Sustainability Reporting Guidelines 2006 of the GRI. We used these criteria to evaluate the Indicators. For the completeness of material sustainability information, we used the 'Criteria for Granting a Sustainability Report Assurance and Registration Symbol' of J-SUS. For the GRI application level, we used the criteria stipulated by the GRI.

#### **Procedures Performed**

We conducted our engagement in accordance with 'International Standard on Assurance Engagements (ISAE) 3000, Assurance Engagements other than Audits or Reviews of Historical Financial Information' issued by the International Auditing and Assurance Standards Board, and the 'Practical Guidelines of Sustainability Information Assurance' of J-SUS.

The limited assurance engagement on the Report consisted of making inquiries, primarily of persons responsible for the preparation of information presented in the Report, and applying analytical and other procedures. The level of assurance provided is thus not as high as that provided by a reasonable assurance engagement. Our assurance procedures included:

- Interviews with the Company's responsible personnel to obtain an understanding of its policy for the preparation of the Report.
- Reviews of the Company's reporting criteria.
- Inquiries about the design of the systems and methods used to collect and process the Indicators.
- Analytical reviews of the Indicators.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the Indicators in conformity with the Company's reporting criteria, and also a recalculation of the Indicators.
- Visit to the Company's overseas factory and domestic factory selected on the basis of a risk analysis.
- Assessment of whether or not all the material sustainability information defined by J-SUS is included in the Report.
- Evaluating the Company's self-declared GRI application level against the application level criteria.
- Evaluating the overall statement in which the Indicators are expressed.

#### Conclusion

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that:

- the Indicators in the Report are not prepared, in all material respects, in accordance with the Company's reporting criteria as described in the Report;
- all the material sustainability information defined by J-SUS is not included in the Report; and
- the Company's self-declaration on the GRI application level does not conform to the application level criteria.

We have no conflict of interest relationships with the Company that are specified in the Code of Ethics of J-SUS.

# KPMG AZSA Sudamaherry Co., Ltd.

KPMG AZSA Sustainability Co., Ltd. Tokyo, Japan October 24, 2011







Printed on paper made with wood from forest thinning. "Morino Chonai-Kai" (Forest Neighborhood Association)-Supporting sound forest management.

Aiming to help protect the global environment, Sumitomo Ba an oil-based ink and a waterless printing process that elite has used soybe generates a relatively small amount of harmful waste fluid.

(H)

# SUMITOMO BAKELITE CO., LTD.

# Contact: Environment & Recycling Dept.

Tennoz Parkside Building, 2-5-8, Higashi-Shinagawa, Shinagawa-ku, Tokyo 140-0002, Japan TEL: +81-3-5462-3479 FAX: +81-3-5462-4873

URL: http://www.sumibe.co.jp/english/

