

Environmental and Social Report

# 2019







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#### Editing Policy

Our company started voluntary efforts to protect the environment in the 1990s and the Marugame Plant and the Tokushima Plant acquired ISO 14001 certification in 1998. We have actively announced environmental conservation activities since 2004 and started posting the "Environmental Report" on our website in 2017. Furthermore, under the title of "Environmental and Social Report" from 2019, it carries many articles on social aspects. In preparing this report, we tried to use easy-to-understand, easy-to-read expressions and structure for everyone to understand the contents, in response to inquiries from stakeholders.

Applicable period

April 1, 2018 to March 31, 2019

Coverage

All offices and plant facilities of SHIKOKU CHEMICALS CORPORATION  
Subsidiaries subject to consolidated accounting of  
SHIKOKU CHEMICALS CORPORATION(10 domestic, 1 overseas)



## Greeting

We, SHIKOKU CHEMICALS CORPORATION, a company with core businesses of manufacturing chemicals and housing materials, were quick to start development of products that contribute to the living environment, health, and safety, such as germicides and disinfectants for swimming pools and interior wall materials to prevent sick house syndrome.

Based on Responsible Care principles, we have engaged in voluntary control activities considering “environment, safety, and health,” beginning at product development and continuing through manufacturing, distribution, use, final consumption, and, finally, ending at disposal. In addition, our Marugame Plant and Tokushima Plant have acquired ISO 14001 certification, continuously updating the environmental management system to utilize it more effectively.

In the long-term vision “Challenge 1000” formulated this year, we set a goal, “Toward ‘one-step-ahead, proposal’ company with creativity,” as our group vision to be achieved by 2030. By solving social issues with creative ideas and leading the progress of the world, we will deliver “one-step-ahead value” to customers, “challenge and growth” to employees, and “better tomorrow” to society.

In addition to the environmental conservation activities of Responsible Care, the “Challenge 1000” states internal and external decisions to contribute to the achievement of the Sustainable Development Goals (SDGs) adopted by the United Nations, for further solving social issues.

In SDGs, under the concept of “No one will be left behind,” a major flow has been formed to solve global issues throughout the entire society by 2030. To achieve this, contribution of companies is essential. Some of our key businesses already have a deep relationship with SDGs. For example, the fine chemical business provides materials and processes needed for future ICT to contribute to the establishment of innovation foundation and to realize a smart society. In the organic chemicals business, germicidal, cleaning, and bleaching technologies provide a safe hygienic environment for people around the world and also help maintain the marine environment. The housing materials business designs future daily lives through better product and space proposals, creating a city where people around the world can live peacefully and safely. We will serve as a member of

society, contribute to the achievement of SDGs for continuous growth, and continue to develop and provide nature- and people-friendly products.

The purpose of this report is to help you to understand the concept and efforts of SHIKOKU CHEMICALS CORPORATION Group, as well as to enhance active communication with society. From this year, the title was changed from “Environmental Report” to “Environmental and Social Report,” in which many social issues are reported.

We continue to make efforts to be a company harmonized with the environment, and to contribute toward sustainable development of the world as a corporate citizen. We ask for your further understanding and support.

August 2019

**Naoto Tanaka**  
President and C.E.O.



### SUSTAINABLE DEVELOPMENT GOALS 17 GOALS TO TRANSFORM OUR WORLD





# About SHIKOKU CHEMICALS CORPORATION

## Management policy , Basic Policy for Responsible Care

### Corporate Philosophy

## "Doku-sou-ryoku (creativity)"

We always value creativity as a driving force for company development

### Long-term vision[Challenge 1000]

## Toward "one-step-ahead, proposal" company with creativity

Solve social issues with creative ideas, leading the progress of the world

### [ Charter of Corporate Behavior ]

In developing our business activities, SHIKOKU CHEMICALS CORPORATION Group respects human rights, complies with all applicable laws and regulations as well as international rules and their spirits, and acts according to the following eight principles based on high ethical standards at the local and international levels:

- 1 We develop and provide socially useful products and services with due consideration of safety to earn customer satisfaction and trust.
- 2 We conduct transactions on the basis of fair and free competition and maintain healthy and sound relationships with the government.
- 3 We communicate with all members of society as well as shareholders and disclose company information in an appropriate and fair manner for maximum transparency in company activities.
- 4 We secure a safe and pleasant working environment, develop employees' abilities and vigor, and respect their personalities and individuality.
- 5 To protect the global environment, we strive to perform as a corporate citizen who cherishes harmony with nature and contributes to society.
- 6 We recognize the importance of intellectual property and personal information and the obligation to protect and handle them appropriately.
- 7 In international business activities, we comply with the applicable laws and regulations of each country and region, respect their cultures and customs, and contribute to regional development.
- 8 We refuse unfair and illegal demands and strongly oppose any antisocial forces and groups.

### Basic Policy for Responsible Care

#### Philosophy

We are committed to protecting the global environment , as a broad-minded corporate citizen that contributes to a society in which harmony with nature is a priority.

Our actions are based on the idea that every company is obliged to take steps to conserve resources and energy and minimize industrial waste, both to protect the environment and to ensure safety.

We make products that are friendly for both people and nature.

We committed to protecting the environment and to the safety and health of our employees and citizens. We will maintain good relations with the community.

Our consideration of safety and the environment will be reflected throughout the lifecycle of all of our products in a way that reduces the burden on the environment.

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Basic  
Policy

We follow the manual for promotion of RC activity to ensure continuous reduction of environmental burden.

We provide product information on safety and the environment.

We follow domestic and overseas laws and regulations and take active environmental protection measures.

Our Marugame Plant and Tokushima Plant acquired ISO 14001 certification, the international standard for environmental management. We will follow the standard to the fullest possible extent.

SHIKOKU CHEMICALS CORPORATION  
Responsible Care Committee  
Committee Chairman, President and C.E.O.

Naoto Tanaka

#### What is Responsible Care(RC)?

Responsible Care(RC) refers to voluntary activities conducted by the business operators manufacturing or handling chemical substances, for the purpose of protecting the environment, safety and health throughout the entire life cycle from development, manufacturing, distribution, use, final consumption to disposal of products.



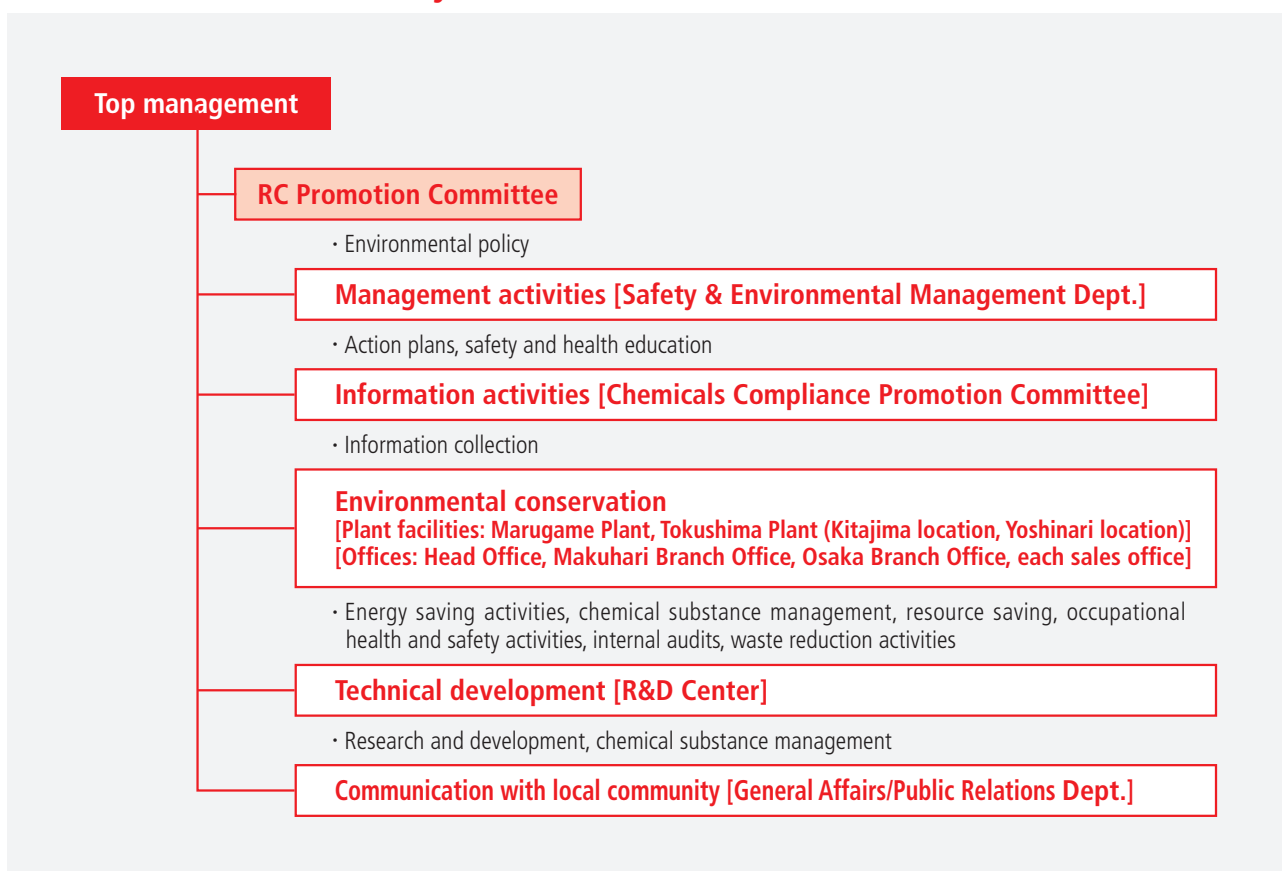
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## Risk Management

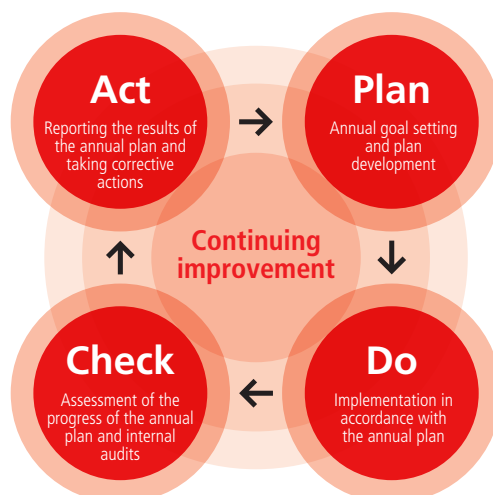
For risk management, the “Basic Risk Management Regulations,” which are the highest standard for risk management, have been established, and each executive officer conducts the management within the scope of their control in accordance with the “Risk Management Manual.” In addition, we have set up a system for appropriate risk management where the aforementioned “Compliance and Risk Management Committee” oversees company-wide risk management with the C.E.O. (Chief Executive Officer) defined as the highest responsible person for risk management.

## Environment Promotion System



With the initiative of the RC Promotion Committee, each plant facility and office has developed annual plans to achieve “Priority Goals of Environmental Protection,” continuing improvement activities.

The results of these activities are assessed by management, and necessary corrective actions are taken to incorporate the outcome into the plan for the coming year, resulting in improved environmental protection activities.





# Environmental Efforts

## Priority Goals and Results of Environmental Protection in 2018

- As for the priority goals of environmental protection in 2018, SHIKOKU CHEMICALS CORPORATION Group has worked to achieve the objectives.
- We set three goals for the reduction of carbon dioxide emissions and promotion of energy saving. The use of energy rose due to increased production of NEO-CHLOR. The unit consumption was the same as the previous year.
- In accordance with the environmental management system, it was confirmed that there was no abnormality in the application, compliance, and control status of laws and regulations related to the environmental conservation at each plant facility. In May 2018, our group company Shikoku Environmental Business Company obtained certification under "EcoAction 21."

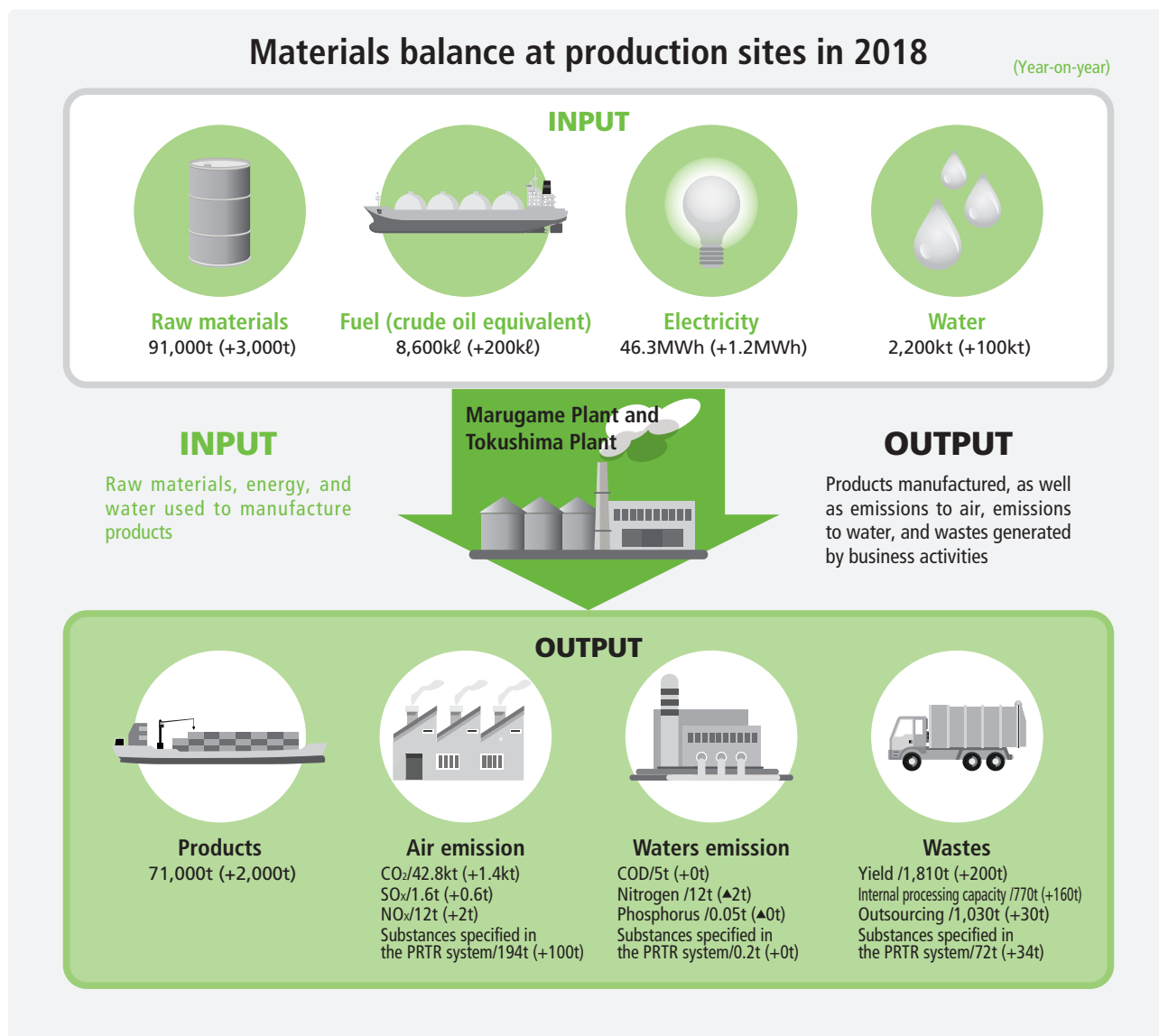
Priority goals	Results in 2018
<b>1. Reduction of carbon dioxide emissions and promotion of energy saving</b>	
1) Plant facilities, Reduce energy consumption by 1% or more (energy consumption rate) compared to the previous year.	+ 0.2% from 2017
2) Offices, Reduce electricity use by 1% or more (per person) compared to the previous year.	▲ 0.2% from 2017
3) Logistics and purchasing departments, Reduce the carbon dioxide emissions intensity related to transportation by 1% or more compared to the previous year.	+ 3.8% from 2017
<b>2. Promotion of reducing industrial waste</b>	
Plant facilities reduce externally-treated industrial wastes to a level below that of the previous year (waste per unit of production).	+ 0.9% from 2017
<b>3. Promotion of reducing emissions of hazardous chemical substances to outside of plant facilities</b>	
Plant facilities formulate and implement a plan to reduce emissions of hazardous chemical substances specified in the PRTR system.	+ 133 t from 2017
Plant facilities involving emissions to the water system formulate and implement a reduction plan.	COD emissions: 5 t (acceptable emission rate 1.8%) Total nitrogen emissions: 12 t (acceptable emission rate 6.1%) Total phosphorus emissions: 0.05 t (acceptable emission rate 0.2%)
<b>4. Promotion of safe operation</b>	
Plant facilities ensure maintenance and management of equipment, security, and disaster prevention to promote stable and safe operation.	Comprehensive disaster prevention training was carried out at Marugame and Tokushima plants
<b>5. Active participation and cooperation in environmental conservation activities</b>	
Actively participate in the community's environmental conservation activities. Promote environmental conservation activities in cooperation with our suppliers.	Actively participate in volunteer and local cleaning activities.
<b>6. Operation of environmental management system</b>	
Plant facilities actively utilize ISO 14001 to control various burdens on the environment.	Promote voluntary improvement of the environmental management system. Shikoku Environmental Business Company obtained certification under EcoAction 21.



## Environmental Conservation

We aim to contribute ensuring protection of the environment, safety and health of the community residents and our employees by continuously reducing environmental burdens caused by the greenhouse gas, chemical substances, and industrial wastes emitted from each of our plants and facilities.

### Overview of environmental burden (to understand the environmental burden of production activities)



### EcoAction 21 Certification

In May 2018, our group company Shikoku Environmental Business Company obtained certification under "EcoAction 21". "EcoAction 21" refers to an environmental management system for Environmental efforts small to medium-sized businesses developed by the Ministry of the Environment to work on energy saving, water saving, waste reduction, and related issues. Shikoku Environmental Business Company worked on waste separation, electricity saving, and promotion of a paperless environment to facilitate environmental burden reduction activities and employee environmental awareness. As a certified business, it has received a request for an interview from the Ministry of the Environment and a request from the government of Kagawa Prefecture to present case examples of its efforts. We will continue to promote these activities further in the future.





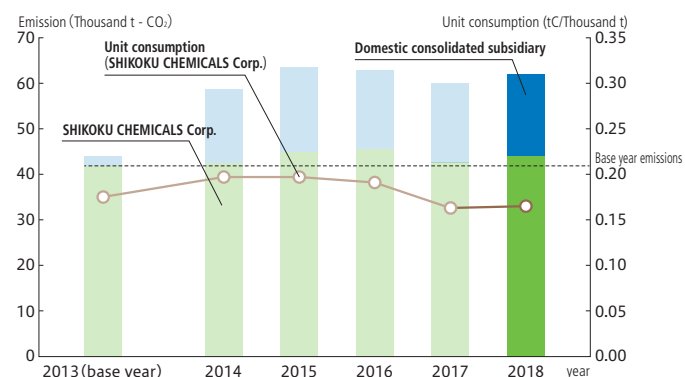
## Reduction of CO<sub>2</sub> Emission

The carbon dioxide emissions \*<sup>1</sup> in 2018 were 43 thousand tons-CO<sub>2</sub>, a 3% increase from the previous year and a 5% rise from 2013 due to increased production of NEO-CHLOR.

Nippon Ryutan Kogyo Co., Ltd. joined our group as a domestic consolidated subsidiary in 2014, as well as NIHON KOHKI CORPORATION in 2017.

\*<sup>1</sup> The emission factor after adjustment by operator of electric utilities was used for electricity.

### CO<sub>2</sub> emissions

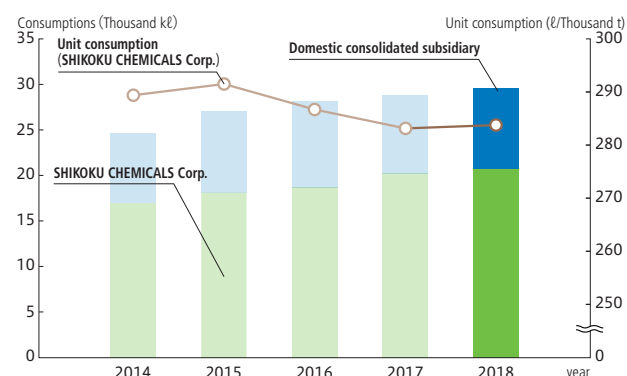


## Efforts for Energy Saving

Plant facilities set goals and are working on reducing their energy usage. The energy usage in 2018 was 20 thousand kℓ crude oil equivalent, an increase of 3% compared to the previous year, due to increased production of NEO-CHLOR. The unit consumption was the same as the previous year.

Nippon Ryutan Kogyo Co., Ltd. joined our group as a domestic consolidated subsidiary in 2014, as well as NIHON KOHKI CORPORATION in 2017.

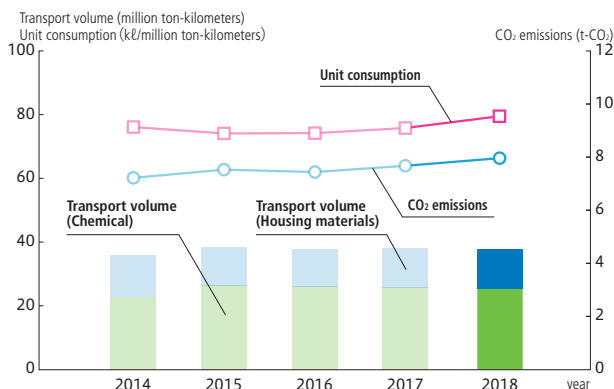
### Energy consumption (Crude oil equivalent)



## Increasing Efficiency of Logistics

Increasing Efficiency of Logistics Our efforts in transporting products include 1) shortening domestic truckload transportation distance by designating ports of discharge for imported products based on the geographical distribution of buyers, 2) promoting the use of ferries and railroads in domestic trunk line transportation, 3) changing stock points to increase load efficiency, and 4) appropriately selecting charter flights and regular flights.

### Energy basic unit for product transportation





## Efforts for Prevention of Air Pollution

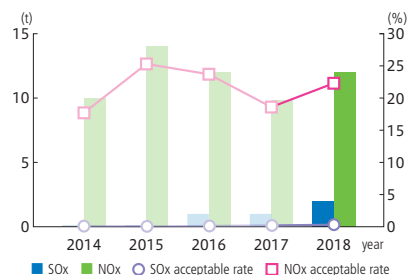
We have been addressing the reduction of air pollutants through measures such as converting fuels to city gas and low-sulfur fuel oil A and establishing an exhaust gas treatment facility.

SOx : Sulfur oxides, substances that cause acid rain and asthma

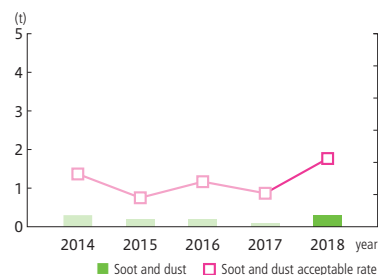
NOx : Nitrogen oxides, substances that produce photochemical oxidants

VOC : Volatile Organic Compounds Volatile organic compounds and substances that produce photochemical Oxidants

■ SOx and NOx emissions (total of those in the three chemical plants)



■ Soot and dust emissions (total of those in the two chemical plants)



\* The three chemical plants refer to Marugame Plant, Tokushima Plant (Kitajima location), and Tokushima Plant (Yoshinari location).

\* The acceptable emission rate is calculated from the standard value of the Air Pollution Control Act.

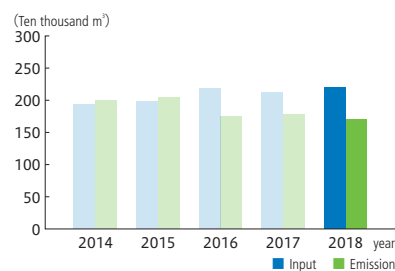
\* Dust is applied to Tokushima Plant (Kitajima, Yoshinari locations). Dust is eliminated at Marugame Plant due to the change to city gas. Changes in charged water and wastewater, Changes in water pollutant emissions.

## Efforts for Prevention of Water Contamination

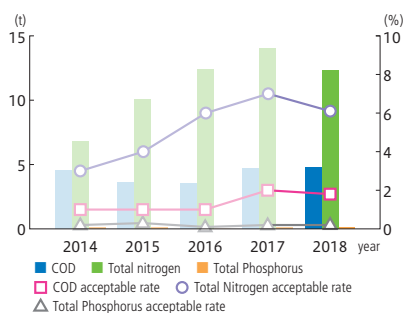
In Marugame Plant, water is circulated and reused; using industrial water lowers dependence on groundwater. In Tokushima Plant (Kitajima location), wastewater containing organic substances and nitrogen compounds is processed at the activated sludge effluent treatment facility, and COD\*<sup>2</sup> and emissions of total nitrogen and total phosphorus are automatically and continuously monitored.

\*2 COD : Chemical Oxygen Demand The amount of oxygen required for chemical decomposition of contaminated substances (mainly organic substances) in water, with an oxidizer

■ Water input and drainage (total of those in the three chemical plants)



■ Water pollutant emissions (total of those in the three chemical plants)

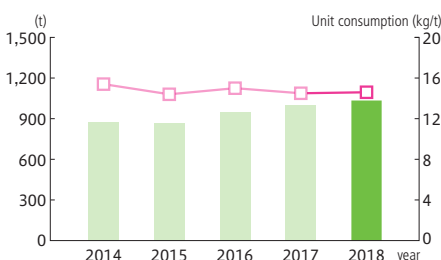


\*Water Pollution Control Law Calculates the allowable discharge rate based on uniform drainage standards.

## Efforts for Reduction of Industrial Wastes

We define all wastes generated from business activities as industrial waste. Each site has made efforts to reduce waste generation and emissions by setting goals. The total industrial waste generation from the three chemical plants was 1,030 tons in 2018, which was 3.33% increase compared to previous year, due to increased production of NEO-CHLOR. The unit consumption was the same as the previous year.

■ Waste emissions (total of those in the three plants)



Volatile organic compound (VOC) treatment facility (Tokushima Plant (Kitajima location))



The directly-fired gas emission incinerator to incinerate and detoxify VOC generated in the drying process was installed in March 2010.

Equipment for circulation and reuse of cooling water (Marugame Plant)



Equipment to treat and reuse the water used in industrial processes.

Active sludge wastewater treatment facility (Tokushima Plant (Kitajima location))



Wastewater containing such as organic substances and nitrogen compounds is purified using our water treatment technology.

"Returnable boxes" and Sanitizer/disinfectant for septic tanks, "PONCYLOR" to be packed in the boxes





## Environmentally and People-Friendly Product Lineup

SHIKOKU CHEMICALS CORPORATION Group continues to make efforts for environmental protection and manufactures products contributing the global environment and living environment, health and safety in the aspect of product development.

### NEO-CHLOR

Chlorinated isocyanurates mass produced by our company for the first time in Japan in 1964. With its excellent characteristics, the pool sanitizer NEO-CHLOR series contributes to a comfortable and safe swimming environment in school and leisure pools, along with an automatic chlorine feeder NAPIX.



### SPACLEAN

In bathing facilities such as hot spring and public bathhouses, it is important to always keep the water in the baths clean. In the hot water which looks clean at a glance, bacteria such as Legionella remain if it is cyclically used after only filth are removed.

SPACLEAN is a chlorinated isocyanurates-based chlorine agent dedicated for bathwater. This agent always keeps bathwater hygienic by the action of strong active chlorine and make people take bath without worry.

We also provide SPACLEAN BROM 60T for hot spring containing alkali and the Legio Hunter mini tablets for medium-scale and small-scale baths such as social welfare facilities.



### NEO-CHLOR MARINE

Ballast water, which is water loaded into a ship to maintain its balance, is injected at the port where cargo is unloaded and ejected at the port where cargo is loaded. To prevent damage to the environment caused by the discharge of organisms contained in ballast water, an international treaty came into effect in September 2017 to require ships to properly manage ballast water. NEO-CHLOR MARINE contributes to the protection of ecosystems as a disinfecting chemical agent for ballast water.



### Gliccoat-SMD (Organic Solderability Preservative for printed circuit boards)

High-density surface mounting of parts using lead-free solder is the dominant technique for the printed circuit boards used in the electronic appliances such as PCs and smartphones from the viewpoint of protecting the global environment. Gliccoat-SMD is a heat-resistant water-soluble preflux which is able to provide good solderability demanded by customers even for lead-free solder which cannot be easily soldered. Gliccoat-SMD is people- and environmentally-friendly product because it contains no organic solvent.



### Ohdelight (Agents for reduction of excess sludge)

Ohdelight is the system that reduces excess sludge generated in the wastewater treatment using the activated sludge method. This is the simple system consisting of a dissolver and a dedicated chemical agent, needs no expensive initial investment, and can be additionally installed in the wastewater treatment facilities such as rural community sewerages and food plants. The system was selected as the technology for the "Environmental Technology Verification Project" in 2011 which is the environment technology verification system established by the Ministry of the Environment. Ohdelight passed the objective verification test conducted by the third-party organization and the performance was approved.





## Green Shade

As one measure against the heat-island phenomenon, green roof has been increasingly introduced in buildings. Our mid-air greening system Green Shade is a planter containing rainwater storage tank, covered with a two-tier mesh panel, along which a creeper grows to make a shadow of green. Our greening system solves problems seen in the existing products for green roof because it needs no large-scale renovation work and can reduce labor of watering by using rainwater and then it can be made use of green wall, too. This product also helps reduce carbon dioxide.



## Keiso-kabe series

The products are wall finishing materials containing diatomaceous earth as a major ingredient and have excellent humidity control feature, heat insulating effect, and sound absorbability. They are people-friendly interior finishing materials which adsorb hazardous formaldehyde and decompose it into harmless substances. The products which can be painted directly to plasterboards needs no intercoating process when blended with carbon fibers, contributing to resource saving.

We also have renovation materials which can be applied on vinyl cloth wallpaper without stripping the wallpaper are also available.

SATORI (our wall material brand in the U.S.) acquired the Indoor Advantage™ Gold.

—What is the Indoor Advantage™ Gold ?—

The Indoor Advantage™ Gold is the U.S. standard to certify product safety and the certification is given based on the third-party certification agency. For the buildings using the certified products, the points required for the "LEED certification" indicating are given as the indoor air quality of the buildings is good. The buildings are authorized as green buildings based on the total number of points.

—What is LEED (Leadership in Energy and Environmental Design) ?—

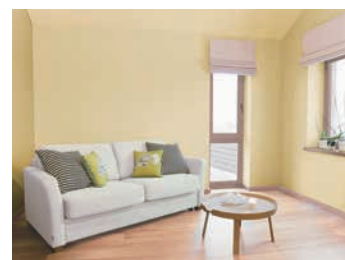
LEED is one of the programs established and promoted by the "U.S. Green Building Council" organized and operated by the private companies mainly from the construction industry in the U.S. It is the system to evaluate how a building contributes improvement of the environment from various perspectives such as design concept and materials used.



## Natulux - Walls made of nature materials

Natulux is an interior wall finish made entirely from natural materials and is therefore free from resin and other chemical substances. Soil or sand is solidified by using sea tangle extract, rather than the commonly used synthetic resin emulsion.

This wall finish is made from only naturally derived raw materials and food additives extracted from natural products. Natulux interior material is utilized for humidity conditioning, which, usually, can be provided only by a plastered wall. Moreover, this material is both environment and people friendly.



## Link Stone G (EcoMark-certified product: Certification No.08 131 008)

Link Stone G series are environmentally-friendly recycling paving materials made from waste glass materials such as used bottles. With high weather-resistance and excellent water permeability, the products avoid puddles being left over and are safe. This series are the EcoMark-certified products with appropriate asperities allowing people to walk comfortably on them.



## Art Wall

Art Wall is an exterior fence that combines an aluminum frame and decorative materials. With a main light-weight body structure, it delivers the feature of having approximately 1/20\* weight compared to a light-weight concrete block fence, while also presenting a sufficiently aesthetic appearance. The fence is designed to minimize the damage of accidents involving injuries in case of collapse. It is a product with excellent safety, designated as a "recommended superior part for school facilities" by the Research Institute of Educational Facilities and registered in the New Technology Information System (NETIS) of the Ministry of Land, Infrastructure, Transport and Tourism.

\* The weight of Art Wall with seed paint finish is 12kg/m<sup>2</sup>. Compared to this, the weight of a concrete block fence is 250kg/m<sup>2</sup> (15cm block), which is approximately 20 times larger.





## Priority Goals of Environmental Protection in 2019

### 1. Reduction of Carbon dioxide Emissions and Promotion of Energy Saving

Our company's greenhouse gas (carbon dioxide) emissions in 2018 increased by 3% to 43 thousand tons from 41 thousand tons in 2017, mainly due to a rise in energy consumption caused by increased production of NEO-CHLOR.

The greenhouse gas reduction target pledged by the government at the twenty-first session of the Conference of the Parties (COP 21) to the United Nations Framework Convention on Climate Change was "Reduction of 26% below of 2013 levels by 2030."

The pledge also aimed at reducing carbon dioxide produced by power plants and corporate activities, etc. by 21.9%. Energy policy, including the restart of nuclear power plants and introduction of renewable energy, will play a major role in achieving these targets. The company should also continue to facilitate energy saving measures to cooperate with efforts to address global warming.

#### ■ Each of our plant facilities aims to reduce energy consumption by 1% or more (energy consumption rate) compared to the previous year.

- Promote improvement activities with full participation of employees to increase production efficiency, reduce waste, and improve equipment performance. In addition, energy saving will be addressed by reusing waste heat and cooling water, and regular inspections of facilities that use heat, air-conditioning equipment, and freezers and refrigerators.
- Promote the use of night-time electricity for charging equipment in an effort to level out electricity use.

#### ■ Each of our office aims at reducing electricity use by 1% or more (per person) compared to the previous year.

- We facilitate energy saving by 1) strictly obeying the rule to set the temperature at energy saving ranges (28°C or above in summer and 20°C or below in winter) by thoroughly implementing Cool Biz and Warm Biz, 2) conducting periodic inspections of air conditioning equipment and updating to highly efficient equipment as needed, and 3) introducing LED luminaire.

#### ■ The logistics and purchasing departments make efforts to improve the efficiency in transportation of products to reduce the CO<sub>2</sub> emissions intensity related to transportation by at least 1% compared to the previous year.

#### ■ We use eco-cars as commercial vehicles to save energy, and optimize the volume of the catalogs and other materials loaded on the cars for energy-efficient driving.

### 2. Promotion of Reducing Industrial Waste

#### ■ Each of our plant facilities aims to reduce externally-treated industrial wastes to a level below that of the previous year (waste per unit of production).

- We also aim to reduce to zero the wastes generated due to troubles in operation of equipment or quality nonconformities.
- The specifications and packaging forms of raw materials and waste properties and management are reviewed to promote reduction and reuse of generate industrial waste volume.
- Aim to switch to a truly paperless environment by actively using electronic bulletin boards and e-mails, and consider introducing tablet devices.

### 3. Promotion of Reducing Emissions of Hazardous Chemical Substances to Outside of Plant Facilities

#### ■ Complying with the environment-related laws, each of our plant facilities formulates and implements a plan to reduce emissions of hazardous chemical substances that is specified in the PRTR system.

#### ■ The plant facilities involving emissions of COD, BOD, nitrogen, etc. to the water system reduce the emissions.

### 4. Promotion of Safe Operation

- Each of our plant facilities ensures maintenance and management of equipment, security and disaster prevention to promote stable and safe operation.

### 5. Active Participation and Cooperation in Environmental Preservation Activities

- We actively participate in the community's environmental conservation activities.
- We promote the environmental conservation activities in cooperation with our clients .

### 6. Operation of environmental management system

- Each of our plant facilities actively utilizes ISO14001 to control various burdens on the environment.



# Relationship with Society

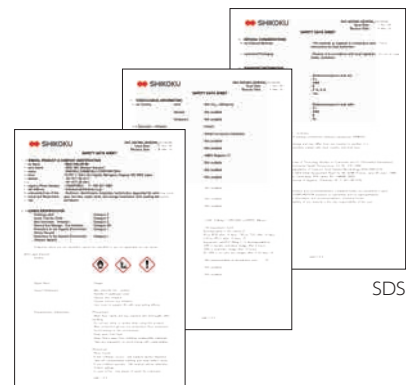
## Product Liability

### Product Safety

We comply with the regulations in each country based on the GHS<sup>\*3</sup> Guidelines recommended by the United Nations and prepare a safety data sheet (SDS) for every chemical product, which allows us to provide information on hazards and toxicity, first aid measures, measures to be taken in case of fire or leakage, handling and storage precautions, physical and chemical properties, information on environmental impacts, disposal and transport precautions, and applicable laws and regulations, etc. In this way, we show customers how to handle our chemical products safely in an easy-to-understand manner.

We also implement surveys on the status of environmental management and regulated substances with our suppliers, from whom we purchase products on a regular basis, and provide information quickly to our customers.

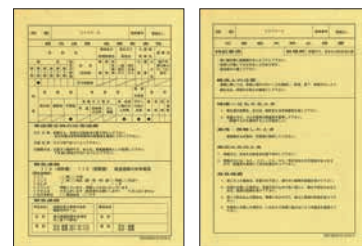
<sup>\*3</sup> GHS : Globally Harmonized System of Classification and Labelling of Chemicals



SDS

### Safety in Logistics

In case of accidents during transportation, we issue the emergency contact card, "Yellow Card," containing the contents of safe measures to be taken by the carrier, police, fire fighters, and other people concerned in dealing with the accidents. We also annually provide contract carriers with training for unexpected accidents including things to be carried with them in transportation. These cards contain information such as names of the substances transported, their properties, first aid measures, and emergency contact.



Yellow Card

## Chemical substance management

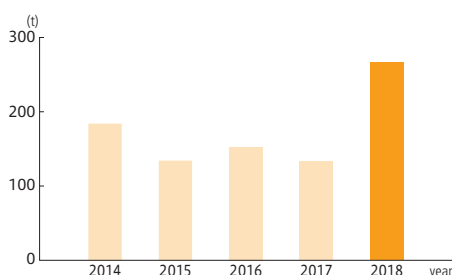
### Correspondence situation of PRTR System

The PRTR system specifies requirements for the business operators to grasp and voluntarily control the volume of chemical substances, which can be hazardous to human health and the ecosystem, discharged to the environment and moved as contained in the wastes.

Substances				Emission and movement in 2018			
				Air	Public waters	Sewer	Industrial waste
Substances specified to the PRTR system	28 substances	Marugame Plant	4 substances	194 t	0.2 t	—	72 t
		Tokushima Plant (Kitajima location)	23 substances				
		Tokushima Plant (Yoshinari location)	1 substance				

<sup>\*</sup>Top three substances (accounting for 93%) of emissions and movement : carbon disulfide, toluene and xylene.

■ Emission and movement of substances specified in PRTR (total of those in the three chemical plants)



Gas emission washing treatment facility (Tokushima Plant (Kitajima location))



This is the facility for gathering chlorine generated in the process manufacturing chlorinated isocyanuric acid and treating it by washing.

Equipment for recovery of carbon disulfide (Marugame Plant)



This is the equipment for recovering carbon sulfide used in the process manufacturing insoluble sulfur.



## Employment, Human rights, Human resource development

We respect each and every employee, trying to create a pleasant working environment.

### 1 Work support

With a declining birthrate and an aging population, we are offering employees various kinds of support programs that make it possible for them to achieve a balance between work and family, encouraging employees who need to provide childcare or nursing care to work with peace of mind.

#### ○Period of childcare/nursing care leave

Employees are able to take childcare leave until the child turns the age of 1 year and 6 months. They may also take up to one year of leave for each family member in need of nursing care, which may be divided into at most three times in a case.

#### ○Accumulated annual leave

For general employees, up to 40 days of expired, unused paid leave accumulated over a period extending up to three years may be used as sick leave.

### 2 Respect for individuals and their human rights

We respect each other's personality and human rights, aiming to create a lively and pleasant working environment.

#### Excerpted from Shikoku Chemicals Group "Charter of Corporate Behavior"

○We secure a safe and pleasant working environment, develop employees' abilities and vigor, and respect their personalities and individuality.

### 3 Management of working hours

In order to optimize the working hours and working hours management, we strengthened the function of the attendance management system in March 2019. It was changed to a system using the cloud in which the head of the department confirms the employee's daily starting and quitting times and approves the application for overtime and holiday work and the like. For example, it includes a system where employees and approvers are alerted when monthly overtime hours of employees reach a certain level. Managers are alerted when working hours exceed a certain level. Thus, we are making efforts for proper working hours and improvement of their management.

### 4 Human resource development

We are focusing on securing and developing excellent human resources, aiming at "Toward 'one-step-ahead, proposal' company with creativity," as stated in the long-term vision "Challenge 1000."

In particular, with regard to training employees who engage in business activities, we are working on the development and use of human resources that take advantage of each employee's strengths and abilities from a mid- and long-term perspective. The company provides employees with the tools and support they need to engage in the independent and ongoing development of their abilities.

As a means of providing on-the-job training in daily operations, we have implemented a system of work targets.

Every six months, employees meet with their superiors to complete a full management cycle of Plan, Do, Check, and Action, which means goal setting, implementation to achieve goals, confirmation of performance, and making use of their results next. Superiors hold periodic meetings with employees to set goals, check interim progress, and assess outcomes, through discussion and guidance, to steadily raise the business execution capabilities of each employee, with the aim of further boosting their department's performance.

Employees also have opportunities to attend various seminars, workshops, and social university courses held outside the company as necessary.

As for off-the-job training, we conduct group training for new recruits, regular employees, and managers, apart from daily operations. For self-development, a communication education system has been introduced, and the company supports all or part of the expenses when employees complete the course selected.



## Occupational Safety and Health

A “Safety and Health Activity Plan” is developed every year at each site to prevent accidents.

In accordance with the “Safety and Health Activity Plan” developed at each site, a safety and health committee is held on a regular basis to promote the plan. We work on the prevention of accidents and improvement of work environments through this activity.



Marugame Plant



Tokushima Plant (Kitajima location)



Tokushima Plant (Yoshinari location)

### Holding the Convention for Safety and Health in Production & Technology Division

The Convention for Product/Technology Safety and Health is organized at the Marugame and Tokushima Plants, and aims to make both plants reliable for local communities by building culture fostered on the concept which shows that “Safety overrides everything else.” Top management share their plans to ensure safety, employees communicate with each other through presentations on risk prediction activities, and excellent safety and health activities are recognized.



Commendation for safety

### Education on safety (Education involving simulations and risk prediction training)

Our safety activities focus on risk assessment, detection of near-miss incidents and concerns, and risk prediction to prevent the occurrence of serious industrial accidents. In addition, our education and training aim to prevent accidents by improving individual risk sensitivity, for example through safety education involving simulations in which participants can virtually experience an accident caught in a machine and a potential risk in a plant such as combustion and explosion, as well as risk prediction training to extract potential risks in operations.



Education involving simulations

### Education on health

In activities for occupational health, we work for employees' health management through the implementation of mental health workshops, periodical health checkups, counseling, and stress checks for all employees because mental and physical fatigue or poor physical condition may cause occupational accidents.

We also provide education on harassment to improve our work environments, where fundamental human rights are respected.



Earthquake experience

### Relationship with labor union

Our company believes that “labor-management relationships are two wheels on the axle.” We strive to build a strong relationship that always leads to a better direction by respecting each other's position and holding an open dialogue, keeping a certain distance.



Mental health workshop



## Environmental audit, education

### Progress on Activities related to ISO 14001

Our Marugame Plant and Tokushima Plant (Kitajima location) acquired the certification of ISO 14001, the international standard for environmental conservation in 2002. We have been developing our environmental conservation activities with the participation of all employees. We conduct risk assessment, education, and self-audit in accordance with the activity plan established by ISO 14001.

Marugame Plant ISO 14001 certificate



Tokushima Plant (Kitajima location) ISO 14001 certificate



## Security and Disaster Prevention

We proactively conduct regular education and training programs on disaster prevention and security, as well as comprehensive disaster drills, to be prepared for unexpected accidents.

In addition, we developed BCP\*\* to secure the safety of employees and ensure early resumption of business activities in preparation for the "Major Nankai Trough Earthquake" that is expected to occur in the near future.

\* 4 BCP (Business Continuity Plan) : A summary of countermeasures for business continuity in case of disasters and accidents

Manufacturing building reinforced for earthquakes in Marugame Plant



Comprehensive disaster drill in Marugame Plant



Comprehensive disaster drill in Tokushima Plant





## Communication and Collaboration with Stakeholders

Our group started business with the production of carbon disulfide, the raw material of rayon, and has been supported by the community residents and many other people. Even now, we continue to have opportunities to communicate with stakeholders in various situations to confirm their expectations and demands for our group companies. We believe that it is important to take expectations and demands obtained through such communication in our supply chain activities for the establishment of trust relationships with stakeholders and sustainable development.

### ■ List of communication with key stakeholders (as of March 2019)

Stakeholders		Communication
Employees	A total of 1,167 employees of SHIKOKU CHEMICALS CORPORATION Group. Respect each individual's personality, strive to ensure their safety and health.	Collective bargain, labor-management council, education training, evaluation interview, health and safety committee, compliance hotline
Customers	Contribute to our customers with chemicals and housing materials and their quality produced by our creativity.	Information provision to environment surveys and CSR-related surveys
Shareholders / investors	The total number of issued shares is approximately 58 million shares and the number of shareholders is 4,363.	General meeting of shareholders Explanatory meeting for investors
Supplier	SHIKOKU CHEMICALS CORPORATION Group, which operates globally, purchases products from many suppliers.	Survey for supplier environmental management system, audit
Community	Conduct corporate citizen activities according to the local culture and climate.	Information provision of business activities, cultural property protection, participation in regional volunteer activities

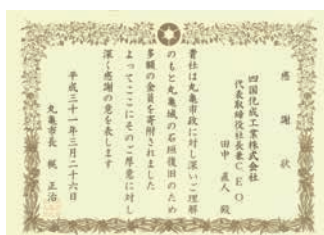
Local cleanup activity



Planting activities



Cultural property protection (Marugame Castle stone wall repair project)





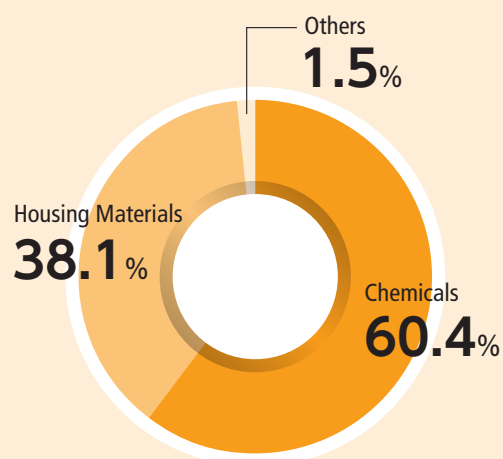
## ■ Corporate Profile (as of the end of March, 2019)

Trade name	SHIKOKU CHEMICALS CORPORATION
Foundation	October 10, 1947
Capital	6,867 million yen
Representative	Naoto Tanaka President and C.E.O.
Number of employees	660 (SHIKOKU CHEMICALS alone) 1,167 (including employees in consolidated subsidiaries)
Sales	52,813 million yen(consolidated statement)
Establishments	
Head Office	8-537-1, Doki-cho Higashi, Marugame, Kagawa
Branch Offices	Makuhari, Osaka
Sales Offices	Tokyo, Osaka, Nagoya, Fukuoka, Sendai, Okayama, Shikoku, Kanagawa, Kitakanto, Shizuoka, Los Angeles(U.S.A.), Shanghai(China), Shenzhen(China), Taiwan, Singapore, London(UK)
R&D Center	Utazu(Kagawa)
Plants	Marugame, Tadotsu, Takase(all three in Kagawa Prefecture), Kitajima, Yoshinari, Naruto(all three in Tokushima Prefecture), Ranzan(Saitama), Oita(Oita)
Subsidiaries subject to consolidated accounting	SHIKOKU KEIZAI CORPORATION, SHIKOKU KEIZAI KANTO CORPORATION, SHIKOKU KOSAN CORPORATION, SHIKOKU SYSTEM KOHBOH CORPORATION, Shikoku Foods & Trading Company, Shikoku Foods & Insurance Service Co.,Ltd., Shikoku Analytical Laboratories, Shikoku Environmental Business Company, Nippon Ryutan Kogyo Co.,Ltd., NIHON KOHKI CORPORATION SHIKOKU INTERNATIONAL CORPORATION(U.S.A.)
10domestic 1 overseas	

## ■ Description of major businesses and products

Chemical products	
Inorganic Chemicals	: Carbon Disulfide, Insoluble Sulfur, Sodium Sulfate
Organic Chemicals	: Isocyanuric acid derivative(NEO-CHLOR), Wastewater treatment agent(HIPOLKA)
Fine Chemicals	: Chemical agents for printed circuit boards, Imidazole derivatives
Housing materials	
Interior	: Interior finishing materials(Keiso-kabe, walls made of natural materials), Exterior finishing materials, paving materials
Exterior	: Gate doors, Fences, Garages, Shutters
Other business	
IT systems, fast-food sales and other service operations	

## ■ Sales amount constituent ratio







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