

Responsibility to Customers

Stakeholder opinions are critical for bringing to our attention issues that are important for coexisting with society and growing sustainably.

We now receive large numbers of customer questions regarding environmentally and socially conscious raw material procurement and product development.

The Nippon Paper Group is committed to providing products that respond to customer concerns and desires.



* Please refer to our Integrated Report 2019 PP.66-67

Indicators	Key Objectives	Performance (fiscal 2018)
Materiality Enhancement of Product Safety		
Initiatives to reduce product safety risk	Strengthening of the product safety management system	<ul style="list-style-type: none"> Convened two meetings of the Group Product Safety Committee, which made decisions on Groupwide measures, shared information among Group companies, and discussed safety matters. Established a management system for brands used for food products, and conducted audits to confirm operating conditions at mills making products under these brands.
	Establishment of a product safety management system for new products	Specified risk management items for new products that cannot be handled under the existing management systems.
	Maintain a higher level of FSSC22000-based management for Paper-Pak products	Conducted product recall training at each business location and revised the manual on crisis management procedures for food safety to comply with the revised standard. Passed FSSC22000 renewal inspection with positive results and no citations for any business location.
Materiality Enhancement of product value		
Forest certification coverage (the provision of products with forest certifications)	Obtain the right to display forest certification logos on substantially all Nippon Paper Industries Co., Ltd. Paper-Pak products by 2020.	Displayed forest certification logos on approximately 200 million Paper-Pak products. (Result for the previous fiscal year: Approx. 20 million)

Policy and Management

In addition to the development of various products that are indispensable to everyday life, we continue to pursue quality which meets the expectations of customers

Basic Stance

Providing reliable products and services

The Nippon Paper Group engages in a broad spectrum of businesses including paper, films, healthcare products, chemical products, lumber, and construction materials, to serve a wide range of both corporate customers and consumers as it continues to develop and grow in tune with society.

Providing stable supplies of products that are indispensable to everyday life, and applying the Group's strengths to develop products that please customers, are how we fulfill our basic responsibility to play a useful role for society. Assuring quality and safety, we will continue to live up to the trust society places in our products and services.

Quality Management Initiatives

Properly managing quality for individual products

Each Group company actively promotes efforts aimed at acquiring ISO 9001 certification and engages in quality management suited to the characteristics of its products.

⇒ ISO 9001 certification status

https://www.nipponpapergroup.com/csr/2019.3_ISO9001_e.pdf

●Quality audits at companies making paper containers for liquids

Customers are constantly increasing their demands for quality and safety in packaging materials. To rapidly respond to these demands and anticipate future demands, the Paper-Pak Quality Assurance Department of Nippon Paper Industries Co. Ltd.'s Paper-Pak Sales Division regularly conducts quality audits of Nippon Paper Liquid Package Product Co., Ltd.'s three mills. In addition, the three mills annually conduct quality meetings and annual quality audits to enhance quality by ensuring a uniform understanding of quality management and critical food safety concerns regarding chemical substances, microorganisms, and foreign matter.

● Quality assurance systems in the paper and paperboard divisions

Nippon Paper Industries has adopted a Service Engineer (SE) system to shorten the distance between customers and production facilities. Under this system, SEs listen directly to customers' voices. They do this, for instance, by visiting customers and conducting quality patrols in which they observe printing and processing lines where paper is used. To create even closer customer relationships, we revamped our quality assurance systems in 2013, assigning technical experts to sales divisions. In addition, to enable swift responses to diverse customer needs, regular quality-information meetings and other means are used to promote collaboration between sales and technical divisions.

● Responding to instances of defective products

For defective products, action is taken by individual Group companies.

In the Paper and Paperboard Division of Nippon Paper Industries Co., Ltd., for example, sales technicians act as the central contact point, working with the relevant mill and head office departments to develop solutions by using tools such as a database of safety-related problems.

At Nippon Paper Crecia Co., Ltd., which sells consumer products, contact information for the Customer Service Office is provided on all products and the Customer Service Office itself is placed directly under the president to ensure that all issues raised by customers are reported. Furthermore, the company's website is configured to accept customer queries and comments. The company consistently acts in good faith to ensure that customers are fully satisfied.

● **Verification and audit of wastepaper pulp blending ratios and use of thinned wood**

Nippon Paper Industries has established a management system for providing customers with guarantees that products are made with a certain percentage of wastepaper pulp content and with wood from forest thinning.

Steps are taken to manage and review production procedures at each of the Group’s mills, based in part on the standards and criteria of the ISO 14001 environmental management system. The proper operation of content management systems is confirmed in internal and external audits, and customers verify that products are being manufactured to content specifications.

Identifying Customer Needs

Proactive communication

Nippon Paper Group engages in proactive communication to identify customer needs across a wide range of areas. We receive numerous inquiries from customers about the tree species, countries of origin, and legality of our raw materials. In response, we explain measures we have put in place to address these matters and provide information on third-party evaluations of our activities (see page 21).

We also actively welcome customers for inspections and tours of mills and plants to give them a first-hand view of production facilities and, thereby, gain their understanding of our production activities.

● **Nippon Paper Industries Co., Ltd.’s Paper-Pak Sales Division**

Nippon Paper Industries’ Paper-Pak Sales Division conducts technical lectures for customers (dairy and beverage companies) providing them with information on how to properly use filling machines. At the same time, the division continuously strives to improve its products based on valuable feedback from customers.



Technical lecture

● **Nippon Paper Industries Co., Ltd.’s Packaging Communication Center**

Nippon Paper Industries Co., Ltd. aims to help enrich daily life through packaging made with woody biomass. The company works together with processing companies and product manufacturers to provide the world with processing technologies and the SHIELDPLUS® series of paper-based packaging materials with outstanding barrier properties.

System for Advancing New-product Development

Building a system for accelerating development

The Nippon Paper Group has established its New Product Development Committee to accelerate business structure transformation. New product development teams operating under the committee identify research themes and present them in committee meetings held every three months. For themes approved by the committee, formal projects are established and provided with human, financial, and other resources.

The committee is chaired by the General Manager of the Corporate Planning Division and its membership is composed of the president of Nippon Paper Industries and the other members of the Management Execution Committee. Depending on the meeting agenda, presidents of subsidiaries or affiliates, and heads of relevant divisions, may participate in committee meetings in order to speed progress toward commercialization.

System for Advancing New-Product Development



The Stable Supply of Products

Stable supply systems optimized by product

To secure on-demand-supply, we devote considerable effort to maintaining stable production by securing reliable procurement of raw materials, and systematically maintaining and upgrading our production facilities. Sales departments and production units coordinate their activities to provide customers with reliable supplies of products by developing flexible production plans that avoid waste, and managing inventories appropriately.

● Addressing natural disaster risks (Nippon Paper Industries Co., Ltd. headquarters and individual mills)

Nippon Paper Group, having learned much from past natural disasters, has developed practical guidelines for addressing natural disaster risks. Working from these guidelines, each mill and plant has examined its natural disaster response measures and revised its disaster response manual.

For its part, Nippon Paper Industries, in preparation for a major disaster that could disable its headquarters, has established a backup facility that could immediately take over headquarters functions. The company also conducts training in the transfer of functions from its headquarters to the backup facility.

● Emergency Manuals (Newsprint)

Newspapers are a highly public information medium, so the need for the stable supply of newsprint is especially strong. The paper industry, therefore, has prepared regional emergency manuals for use when supply operations cannot be conducted in the usual manner.

In the event of a disruption to communication and transportation systems as a result of a major disaster, paper companies follow these manuals to ensure the smooth supply of newsprint.

● Business continuity management system (Nippon Paper Industries Co., Ltd. Paper-Pak Sales Division)

Nippon Paper Industries' Paper-Pak Sales Division has developed its own business continuity guidelines and established its own management system, so that it can maintain production even in times of emergency. The division is moving ahead with the selection of priority items for emergencies and procurement of key raw materials from multiple manufacturers. It has also diversified its production across multiple production sites to lower its disaster risk exposure.

Stabilization of Operations

Installing a newly developed system of wireless sensors for 24/7 detection of equipment abnormalities

Nippon Paper Industries Co., Ltd. and NIPPON PAPER UNITEC CO., LTD. have developed the "e-musen junkai" (e-wireless patrol) system, which uses wireless sensors to constantly monitor equipment for signs of abnormalities.

The pulp and paper is a prime example of a process industry, where the stable operation of equipment has a direct impact on the ability to stably supply products and maintain high quality. Maintaining equipment, therefore, is critical, and proper maintenance depends on monitoring for signs of abnormalities by checking vibration and temperature.

In the past, signs of abnormalities were discovered mainly by people who patrolled production facilities. This approach depended greatly on unquantifiable skills and expertise in the form of the experience and intuition of those checking production facilities. With the "e-musen junkai" (e-wireless patrol) system, IoT technology is used to accumulate temperature and vibration acceleration data on equipment in operation and monitor trends in this quantitative data. Properly responding when an abnormal trend is detected helps to prevent equipment trouble and stabilize operations (see page 31).

Nippon Paper Industries Co., Ltd. is gradually installing the "e-musen junkai" system in all of its domestic mills and actively selling it to companies outside the Group.

⇒ "e-musen junkai" (e-wireless patrol) system webpage (Sales company: Sakurai Co., Ltd.)

<http://www.sakurai.co.jp/landing/e-musen/index.html>

(Japanese Only)

Water Supply Risk related to Our Water Usage

No Threats to Water Supplies

Presently, we have received no information from either government authorities or local communities that water usage by Nippon Paper Group company mills is having negative environmental impacts. Our operations are posing little risk to water supplies in Japan.

In addition, simple risk assessments performed by third parties have not indicated that water supplies are seriously threatened by our operations.

Enhancement of Product Safety

Responding to customer faith by establishing the Product Safety Management System to enhance safety

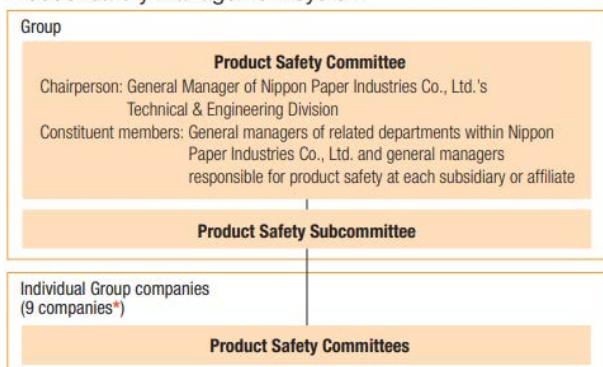
Product Safety Management System

Establishing a Group system

The Nippon Paper Group Product Safety Committee oversees all matters related to product safety. It discusses and makes decisions on directions and policies, and other important product safety matters, for the entire Group.

Reporting directly to the committee, the Product Safety Subcommittee monitors and manages activities at each Group company. Drawing on information and the exchange of opinions among Group companies, the subcommittee also deliberates on optimal responses to matters of concern and submits its findings to the Product Safety Committee. Each Group company establishes its own product safety committee and engages in appropriate product safety activities.

Product safety management system



※Nippon Paper Industries Co., Ltd., Nippon Paper Crecia Co., Ltd., Nippon Paper Papyrus Co., Ltd., Nippon Paper Lumber Co., Ltd., Nippon Seitai Corporation, NP Trading Co., Ltd., Nippon Paper Development Co., Ltd., Akita Jujo Chemicals Co., Ltd. (As of March 31, 2018)

Philosophy and Basic Policy on Product Safety

(established on October 1, 2004, revised on August 1, 2014)

Philosophy

We pledge to work to improve safety at every stage of the life cycle of our products, from design to manufacture, supply, and disposal, and to provide products and services that the public can trust.

Basic Policy

1. To provide safe products and services in response to the continued trust of our customers.
2. To respect related laws and standards in order to guarantee the safety of our products and services. We pursue safety not only as expected under Japanese laws but also from a global perspective.
3. To provide customers with precise information on the safety, features, and correct usage of our products.
4. To set up a product and service safety management structure and ensure that all group employees have a thorough awareness of the importance of product safety.

Approach toward Product Safety

System for legal and regulatory management and compliance

Nippon Paper Group, acting in compliance with laws, including Japanese laws such as the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, PRTR Law, and Food Sanitation Act, works to ensure product safety by employing management approaches adapted to the characteristics of particular operations and products.

Product Safety Management Approach

Overall Level

- ISO 14001 Environmental Management
Management of chemical substances included in raw materials

Brands for Food Products (Paper and Paperboard businesses)

- Product safety management guidelines for paper and paperboard with direct exposure to food products
Specification of brands and production facilities subject to safety management measures; implementation of enhanced facility- and management-system-based measures to prevent contamination by insect and other foreign matter; promotion of hygiene management; chemical substance management based on Japan Paper Association voluntary standards; and annual confirmation of the functional status of the above measures.

Food, beverages, and their containers (Paper-Pak Division)

- HACCP¹ hygiene management (Food containers)
Adoption and enhancement of facilities that emphasize production environment hygiene, the use of defect-detection devices to monitor products, and wearing of clothing to prevent contamination by hair
- FSSC 22000² food safety standard
- Food defense measures
Prevention of intentional threats to food products by equipping paper-pak manufacturing plants with entry and exit controls, cameras for quality control, tight controls on access to chemicals, and other such security measures.

1 HACCP

An acronym for "Hazard Analysis and Critical Control Point"

2 FSSC22000

FSSC 22000 is a food safety management system certification scheme integrating the ISO 22000 international food safety management system standard, which calls for implementation of HACCP, the ISO/TS 22002 prerequisite program on food safety, and other requirements

Acquisition of FSSC 22000 certifications (as of March 31, 2019)

Company Name	Mill, Operating Division, Production Company
Nippon Paper Industries Co., Ltd.	Gotsu Mill ³ , Nippon Paper Liquid Package Product Co., Ltd. (Egawa Mill, Miki Mill, Ishioka Mill)

Nippon Dynawave Packaging Co.

- 3 CMC (carboxymethyl cellulose), cellulose powder, and stevia and licorice sweeteners (all for use in food)

- **Halal certification obtained**

In March 2017, Halal certification⁴ was obtained for the nucleic acid (RNA-M) and dissolving pulp produced at the Gotsu Mill.

The same certification was obtained for CMC (carboxymethyl cellulose) the following October. As a result, the Gotsu Mill can now export products Muslims can safely consume to Islamic countries.

- 4 **Halal certification**

Halal certification is presented for products that, upon inspection of raw materials, production processes, ingredient and product storage conditions, and other matters, have been determined to be in keeping with Islamic law. Products exported to Islamic countries should be Halal certified.

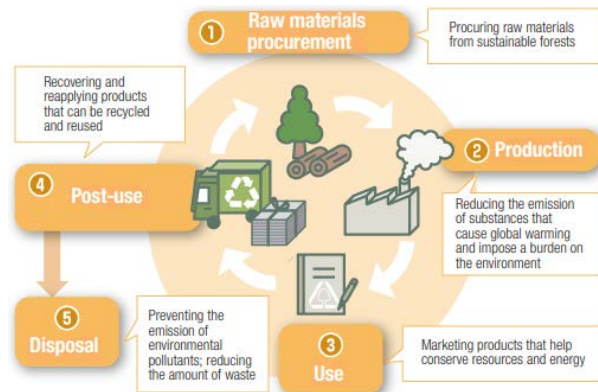
Enhancement of Product Value

We provide products, including forest certified products, that meet customer demands.

Development of Environmentally Friendly Products

Considering every stage of the product lifecycle

Nippon Paper Group products use wood raw materials – renewable biomass resources – and are recyclable. Building on the fact that our products have a low environmental impact by their very nature, each Group company strives to develop products that are cognizant of the environment at every stage beginning with raw material procurement and proceeding through production, consumption, post-consumption, and disposal.



1 Environmentally Friendly Raw Materials Procurement

Case

Providing certified paper by starting with properly managed forests (Nippon Paper Group)

The forest certification system is composed of two components—the Forest Management (FM) component, which certifies that forests are sustainably managed from environmental, social, and economic perspectives, and the Chain-of-Custody (CoC) component, which certifies that products from certified forests have been properly processed and distributed. The Nippon Paper Group has obtained CoC certifications at its principal mills, and provides certified paper products.

⇒ Status of CoC certification acquisition at principal production sites
https://www.nipponpapergroup.com/csr/2019.3_CoC_e.pdf

Case

Obtaining certifications for Paper-Pak products

(Nippon Paper Industries Co., Ltd., Paper-Pak Sales Division)

Nippon Paper Industries Co., Ltd.'s Paper-Pak Sales Division obtained CoC certifications from the FSC® (FSC® C0128733) and PEFC international forest certification organizations in February 2016. It took this step to promote the environmental advantages of PaperPak products over plastic bottles and metal cans, and enhance appreciation of both Paper-Pak products and the company's brand. The division is working to supply Paper-Pak products with forest certifications to basically all customers* by fiscal 2020, when the Olympic and Paralympic Games will be held in Tokyo.

* Nippon Paper Industries Co., Ltd. was able to place forest certification logos on approximately 500 million Paper-Pak products in fiscal 2018, up from approximately 200 million in fiscal 2017.

① ⑤ Environmental consciousness in raw material procurement and waste handling

Case

SPOPS® Paper Containers Replacing the Refill Pouch

(Nippon Paper Industries Co. Ltd.)

Nippon Paper Industries Co., Ltd. has developed SPOPS®, a replaceable paper container designed to take the place of plastic pouches for refills of shampoo and other products. Commercialization efforts for this new product are now moving forward. With SPOPS®, there is no need for pouring from a pouch into a dispenser; product refills are accomplished simply by replacing a cartridge. PAPERPAK manufacturing technology is what makes the SPOPS® approach to product refills possible. SPOPS® makes daily life more convenient by simplifying refills. Because it maximizes the use of paper - a recyclable material - it also helps to reduce plastic waste. In February 2019, we completed development on a specialized filling machine that we are installing at OEM manufacturers of cosmetics as we move toward full-fledged sales activities.



The specialized SPOPS filling machine (left) and product (right)

① ~ ⑤ Environmental consciousness throughout the product lifecycle

Case

SHIELDPLUS PREMIER® oxygen- and moisture-barrier materials

(Nippon Paper Industries Co., Ltd.)

Nippon Paper Industries Co., Ltd. has developed SHIELDPLUS®, an environmentally friendly packaging material made from paper, which is recyclable and ultimately renewable. Sales of this product began in November 2017.

The company is also developing SHIELDPLUS PREMIER®, a product with even greater moisture-barrier properties that it began providing on a sample basis in April 2019. Group company Jujo Thermal Oy (headquarters: Kuuttua, Finland) has begun considering production of the SHIELDPLUS® series.

Performing as well as existing products, SHIELDPLUS® offers outstanding barrier properties and is seen as a substitute for aluminum and barrier-film options. As a replacement for aluminum, SHIELDPLUS® enables the use of metal detection devices for inspection procedures. As a replacement for barrier film, SHIELDPLUS® reduces the use of plastic, which is made from petroleum, a depletable resource. It, therefore, results in lower CO₂ emissions, from manufacturing through disposal, than do conventional packaging materials made only from plastic.

The shift to paper packaging is accelerating globally in light of the recent attention on plastic pollution of marine environments. The environmental benefits the SHIELDPLUS® series offers in addition to its outstanding barrier properties, make it appropriate for use under a wide range of circumstances and for various types of packaging applications.



Examples of packages that use SHIELDPLUS®

4 5 Post-use environmentally friendly disposal

Case

MinerPa®, a new functional material made from trees

(Nippon Paper Industries Co., Ltd.)

Nippon Paper Industries Co., Ltd. has developed a unique technology for densely bonding inorganic particles to the surface of wood pulp (cellulose fiber). This technology is based on the company’s accumulation of pulp, inorganic, and other technologies for making paper and has given rise to MinerPa®. Premarketing work for this new product began in February 2017, and technologies are being developed based on customer needs.

MinerPa® is a functional material based on wood pulp, a recyclable natural fiber, and combines the formability of wood pulp with the deodorizing/antibacterial, flame-retardancy, X-ray shielding, antiviral, and other properties of inorganic materials. MinerPa® can be recycled for reuse as paper or as fuel for generating heat. Nippon Paper Industries Co., Ltd. has adopted a new-material development concept, which is to flexibly change materials into granular, solid, and other forms to offer functional, design, and other types of value to serve customer needs. MinerPa® is a product that is based on this concept and is being offered as a new earth- and people-friendly material that delivers value beyond that of paper (sheets).

In fiscal 2018, the company moved forward with plans to establish a demonstration plant at the Fuji Mill (Fuji, Shizuoka Prefecture) with operations starting in October and the scale of trial production increasing. This facility will have an annual production capacity of at least 450 tons. The company will establish a system for the full-scale distribution of samples with an eye toward commercialization.

With the establishment of the demonstration plant, the company will search for promising business areas and focus on rapidly developing applications for commercialization



Demonstration Plant for MinerPa®

Providing Products that Respond to Customer Demands

Responding to changing quality demands

Case

Super Jet Fiber insulation material

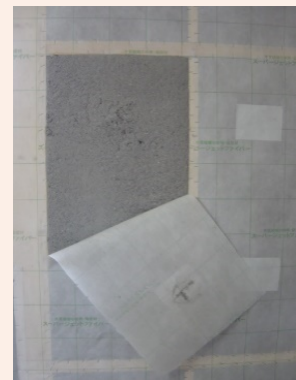
(Nippon Paper Lumber Co., Ltd.)

Nippon Paper Lumber manufactures Super Jet Fiber, a residential heat insulation material that, because it is made primarily of recycled newspapers, is close to a natural material.

As a blown-in thermal insulation material, Super Jet Fiber offers the benefits of low environmental impact and high insulating efficiency, which have made it increasingly popular for use in ZEH (net zero energy houses).



Super Jet Fiber (insulator)



example of construction

Case

Water-based functional coating resin

(Nippon Paper Industries Co., Ltd., Chemical Sales Division)

The Chemical Business of Nippon Paper Industries Co., Ltd. manufactures and sells SUPERCHLONÁ®, a functional coating resin. This product adds adhesion properties to coatings and inks, making it possible to coat or print on automobile bumpers, soft packaging films for food, and other items made of polypropylene, a material with poor adhesion properties.

In addition to the original organic-solvent-based product, the company also makes a low-environmental impact water-based version of this product to meet market needs inside and outside Japan. It is also working diligently to develop products that respond to detailed customer needs.



Super Cron®
(Water-based type)

Case

Paper-Pak Products with Closures

(Nippon Paper Industries Co., Ltd., Paper-Pak Sales Division)

Nippon Paper Industries Co., Ltd. is expanding its lineup of the triangular-roof-shaped paper cartons used in chilled distribution. Additions include Pure-Pak®¹ Curve; Pure-Pak®Sense, which is suited for highly viscous liquids; Pure-Pak®Diamond, which conveys the image of a PET bottle for beverages; and NP-PAK Rock, which features two corner panels that can be used for product messages. In addition, in September 2018 Nippon Paper



From right: Pure-Pak® Diamond, Pure-Pak® Curve, Pure-Pak® Sense, and NP-PAK Rock liquid containers with closures.



NSATOM®

Industries collaborated with Shikoku Kakoki Co., Ltd. to develop the Nippon- Shikoku Aseptic Total Optimized Method (NSATOM®). NSATOM® meets market needs for a filling system that can handle solid materials, long fibers, high-viscosity filling, and a high degree of hygiene, and is the world's first aseptic filling system for paper packs that enables room-temperature storage. By adding more variety to paper packs, the company is increasing added value and responding to customers' needs.

The closures Nippon Paper Industries Co., Ltd. provides on its paper packs are based on universal design concepts. Because they do not use an inner lead, they are easy to open and use less plastic, which makes them more environmentally friendly and lighter² than similar products made in Japan.

1 "Pure-Pak®" is a trademark of ELOPAK AS of Norway.

2 Based on research by Nippon Paper Industries Co., Ltd.

Case

A product line for a wide range of needs
(Nippon Paper Crecia Co., Ltd.)

Nippon Paper Crecia goes to great lengths to develop products that respond to customer needs. It pays meticulous attention to feedback received through its Customer Service Office and sales channels, and works to develop products that meet newly emerging needs and performance demands.



Kleenex® Lotion Tissue Hada Ururu



Poise® Sara-sara Suhada
Pantiliner



Poise® Hada Care Pad



SCOTTIE® fine four-roll,
triple-length Kitchen
Paper Towel