

# Recycling-Based Society

## Plastic Waste Reduction Measures

### Our Basic Approach and Strategy

Although plastics are easy to process, durable, and essential to our hygienic lives, they must be properly disposed of and recycled after use. As a manufacturer that uses plastic in its products and packaging materials, Unicharm recognizes that it has a responsibility in this regard. Aiming to address the global problem of plastic, Unicharm supports the Plastics Smart campaign organized by the Ministry of the Environment. In addition, we became a member of the Japan Clean Ocean Material Alliance (CLOMA) in January 2024.



In response to the problem of plastic waste, which was put forth as an issue to be addressed under Environmental Targets 2030 announced in May 2020, we declared “realizing a new society with zero plastic waste” as part of our 2050 Vision and laid out our 2030 targets. In fiscal 2022, we participated in the World Wide Fund for Nature (WWF) Japan’s Plastic Circular Challenge 2025 to express our commitment to resolving plastic pollution issues and set targets for 2025. Moreover, to strengthen efforts to resolve the issue of plastic waste throughout the Group, in fiscal 2023 Unicharm declared its participation in the Japan Business Coalition for a Global Plastics Treaty, for which WWF Japan serves as secretariat, and became a member of the Business Coalition for a Global Plastics Treaty in fiscal 2024.



### Risks and Opportunities

#### Risks

The sanitary pads and disposable diapers produced by Unicharm utilize plastic materials molded into sheets and films to create product and packaging materials. Accordingly, there is a risk that production costs will rise due to tighter regulations and taxes on petroleum-derived plastics, as well as an imbalance between the supply and demand of raw materials due to the mandatory use of recycled plastics. Furthermore, if our efforts to proactively address the issue of plastic waste are not conveyed appropriately to consumers, there is a risk that they may refrain from purchase.

#### Opportunities

Ongoing efforts to reduce the total amount of plastic used throughout our business activities will enable Unicharm to comply with stricter regulations on the use of petroleum-derived plastic materials and contain production cost increases due to rising material prices. Furthermore, there is an opportunity to increase sales with products that use less plastic, as they are more likely to be supported by consumers who wish to purchase and use environmentally friendly products.

### Management Structure

At Unicharm, we report the progress of responses to environmental issues in accordance with Environmental Targets 2030 and Kyo-sei Life Vision 2030 based on the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). The ESG Committee, chaired by the president & CEO, formulates plans to resolve material issues related to our measures to overcome the problem of plastic waste, which are submitted to the Board of Directors for approval. Four times a year, the ESG Committee convenes to report on the progress of activities and discuss and decide on further measures for improvement, thereby implementing a PDCA cycle toward the achievement of targets.

P.20 Environmental Management Structure  
P.8 Sustainability Promotion System

### Indicators and Targets

#### ► Kyo-sei Life Vision 2030: Safeguarding the Well-Being of Our Planet

| Indicators  | Fiscal 2022 Results | Fiscal 2023 Results | Fiscal 2024 Results | 2030 Targets                                |
|---|---------------------|---------------------|---------------------|---|
| Material recycling of nonwoven products using recycling resources | Development ongoing | Development ongoing | Development ongoing | Start of commercial usage                   |
| Percentage of virgin plastics to total plastics                   | Development ongoing | Development ongoing | Development ongoing | Reduced by half (compared with fiscal 2020) |

## ▶ Responding to the Problem of Plastic Waste Under Environmental Targets 2030

| Implementation Items   |                   | Base Year | Fiscal 2022 Results                    | Fiscal 2023 Results  | Fiscal 2024 Targets  | Fiscal 2024 Results  | Fiscal 2025 Targets  | 2030 Targets   | 2050 Vision                                     |
|--|-------------------|-----------|--|--|--|--|--|--|---|
| Reducing usage of plastic in packaging materials               | Per unit of sales | 2019*1    | -12.3%                                 | -18.4%   | -21.1%   | -26.5%   | -27.0%   | -30%   | Realizing a new society with zero plastic waste |
| Selling products that do not contain petroleum-derived plastic | —                 | —         | Development ongoing                    | Development ongoing  | Development ongoing  | Development ongoing  | Development ongoing  | 10 or more stock-keeping units (SKUs) sold           |   |
| Raising awareness about proper disposal of used products       | —                 | —         | 50%<br>(8 countries and regions)       | 56%<br>(9 countries and regions)   | 63%<br>(10 countries and regions)  | 63%<br>(10 countries and regions)  | 69%<br>(11 countries and regions)  | Rolled out at all Group companies                    |   |
| Raising awareness about proper disposal of used products       | —                 | —         | Japan: 81.8% decrease from fiscal 2019 | Japan: 86.9% decrease from fiscal 2019<br>China: 76.5% decrease from fiscal 2019 | Japan: 88.8% decrease from fiscal 2019<br>China: 79.9% decrease from fiscal 2019 | Japan: 97.5% decrease from fiscal 2019<br>China: 93.7% decrease from fiscal 2019<br>Vietnam: 37.4% decrease from fiscal 2022<br>India: 21.7% decrease from fiscal 2023 | Japan: 97.9% decrease from fiscal 2019<br>China: 94.8% decrease from fiscal 2019<br>Vietnam: 47.8% decrease from fiscal 2022<br>India: 34.8% decrease from fiscal 2023 | In principle, reduced to zero at all Group companies |   |

\*1 We have updated our base year from fiscal 2016 to fiscal 2019 following a review in fiscal 2020.

## ▶ Our Commitment to Participation in the Plastic Circular Challenge 2025 of WWF Japan

|                                       | Base Year | Fiscal 2025 Target | 2030 Target  |
|---------------------------------------|-----------|--------------------|--|
| Plastic used in promotional materials | 2019      | Reduced by half    | In principle, reduced to zero at all Group companies |

### Initiatives and Results

#### Reducing Usage of Plastic in Packaging Materials

We are working to reduce the amount of plastic used in packaging throughout the Group by making packaging thinner and minimizing the number of bonded parts. Through these efforts, in fiscal 2024 we reduced the amount of plastic used in packaging materials by 26.5% (per unit of sales) compared to fiscal 2019. Furthermore, we also promote the use of plastics made from plant-derived raw materials.

#### Reducing Usage

Unicharm is continuously engaged in reducing plastic usage without compromising product quality or functionality by revising package designs, including making packages thinner, minimizing areas where packaging is pasted together, and reducing package size by altering the way products are packed.

#### • Baby Diaper Packaging (Brazil)

Unicharm's local subsidiary in Brazil has revised its method of packaging disposable baby diapers, reducing plastic use by an average of approximately 14% for the *MamyPoko Fralda-Calça Dia&Noite* series and approximately 6% for the *MamyPoko Fralda-Calça* series. We also reduced plastic use in package handles by about 60% by adjusting their specifications.

#### • Lifree Peace of Mind Slim Pants and Lifree Rehabilitation Pants (Japan)

We changed the absorbent materials for our disposable adult diapers *Lifree Peace of Mind Slim Pants* and *Lifree Rehabilitation Pants* to make them thinner and reduced their packaging size, thereby reducing the amount of plastic used in these packages.

#### • Pet Food Packaging (Japan, Thailand)

Unicharm has resized the packaging of its *Gran-Deli* and *Gran-Deli Precious* brand of dog food and *Silver Spoon* brand of cat food and treats (*Rich & Flavorful*, *Japan Select*, *Nyan Spoon*, *Snacks That Make Cats Happy*) sold in Japan as well as its *AllWell* brand of cat food sold in Thailand, maintaining the same volume while reducing plastic use.

#### • Lifree Buttocks Clean Shower ESSENCE Soap Type (Japan)

We increased the concentration of this cleaning solution by 1.5 times to expand the number of uses per bottle and made the container smaller, contributing to an approximate 20% reduction\*2 in plastic use.

\*2 volume-ratio



## • Reducing Usage of Plastic by Adopting Different Materials (United States)

We changed the packaging material of *Delectables Squeeze* cat treats from polyethylene terephthalate (PET) and linear low-density polyethylene (LLDPE), which are non-recyclable film laminates, to a oriented polypropylene (OPP) and cast polypropylene (CPP), realizing single material construction and thereby reducing plastic use by around 21 tons per year.

## ■ Using Paper Packaging

Unicharm is working to reduce the amount of plastic used in packaging by switching packaging and some packaging materials to paper materials.

### • Ultra-Comfort Pleasantly Comfortable on the Ears Face Masks (Japan)

In May 2024, Unicharm released *Ultra-Comfort Pleasantly Comfortable on the Ears*, a limited-edition face mask with a paper-based inner pouch. The amount of plastic used in the inner pouch has been reduced by approximately 60%. \*1

\*1 Compared with conventional inner pouches



### • Diana SENSI FOR NATURE (Vietnam)

In conjunction with World Environment Day on June 5, 2024, Unicharm's local subsidiary in Vietnam released *Diana SENSI FOR NATURE*, limited-edition sanitary pads that come in paper packaging, thereby reducing the amount of plastic used in packaging by around 56%.



### • SOFY Ultra-Sound-Sleep Peace-of-Mind Pants (China)

Unicharm's local subsidiary in China has adopted paper packaging for its trial pack of *SOFY Ultra-Sound-Sleep Peace-of-Mind* pants-type sanitary pads, reducing plastic by around 25%. During the 11-month period from May 2024 to March 2025, these trial packs were distributed to around 2.48 million people, contributing to a reduction of approximately 6.5 tons in plastic use.



### • Sofy Hadaomoi ORGANIC Sanitary Pads (Japan)

In June 2024, Unicharm released *Sofy Hadaomoi ORGANIC*, limited-edition sanitary pads that come in paper packaging to reduce plastic use. The packaging is also designed to be used as a storage case for sanitary pads.



### • Moony Natural Newborn Tape-Type Trial Pack (Japan)

Unicharm has adopted paper packaging for its *Moony Natural Newborn Tape-Type Trial Pack* disposable diapers distributed at baby stores.



### • Switching to the Use of Paper Hooks for Period Underwear Packaging (Japan)

The hooks that are used to display Unicharm's period underwear products at retail stores were changed from a plastic to a paper material, reducing the amount of plastic used in packaging by roughly 20%.



## ■ Using Plant-Derived Plastics

### • Lifree Sawayaka for Men Comfortable Sheet (Japan)

In April 2023, we launched *Lifree Sawayaka for Men Comfortable Sheet*, an absorbent sheet for men that is approximately 2.0 mm thick and feels as comfortable to wear as underwear. The individual packaging of this product contains a bio-derived polyethylene film.



## ■ Using Recycled Materials

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### • Use of Post-Industrial Recycled (PIR) Plastic\*2

In cooperation with suppliers, Unicharm's local subsidiary in India began introducing materials containing 10% post-industrial recycled (PIR) plastic\*2 in the packaging of all in-house manufactured products in June 2024. This initiative is in response to the revised Plastic Waste Management Rules in India, requiring the use of 10% recycled plastic in packaging materials from 2025.

In November 2024, Unicharm's local subsidiary in Australia incorporated approximately 15% of conventional post-consumer recycled (PCR) plastic\*3 into linear low-density polyethylene (LLDPE) used in the packaging of newborn- and small-size baby diapers, in addition to approximately 5% of PIR plastic.

Our local subsidiary in the United States uses approximately 10% of PIR plastic in the packaging of *Home Protection* pet sheets for dogs.

\*2 Plastic recycled from waste generated during the manufacturing process, such as product loss

\*3 Plastic recycled from post-consumer waste, such as packaging materials

### • Recycling Trimmings Generated in Manufacturing Process for Use in Packaging

The packaging (wrapping material) for the sanitary pads and disposable diapers Unicharm manufactures utilize film plastic materials. In the past, we disposed of trimmings (excess materials) generated when cutting materials in the manufacturing process. In response, in November 2023, THE PACK CORPORATION, Fukusuke Kogyo Co., Ltd., and Unicharm subsidiary Cosmotec Corporation began engaging in a joint effort to recover trimmings and reuse them as raw material for packaging. In fiscal 2024, this recycled material was adopted in the packaging of *MamyPoko Pants RefF*, disposable baby diapers use recycled raw materials from used disposable diapers.



Plastic material trimmings

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TV-Asahi, Shin-ei, and ADK

### • Utilizing Reusable Plastic (United States)

Our subsidiary in the United States uses blister packaging comprising approximately 20% recycled plastic for its *Chew'n Clean Tuff Bone Extra Small* and *Chew'n Clean Twisty Bone* dog toys.



### Product Initiatives

In light of the fact that many of the products manufactured and sold by Unicharm are considered disposable after use, we promote product development focused on reducing environmental impact upon disposal of our products. We are making efforts to develop lighter and thinner products by combining raw materials, increase the number of products using plant-derived raw materials, and develop products that do not use petroleum-derived plastic.

#### Reducing Usage

##### • Reducing Raw Material Usage

Unicharm continues to reduce the use of raw materials while maintaining and improving product functions. In the case of *Moonyman* and *Moonyman Low Irritation, More Comfort* disposable baby diapers released to the Japanese market in September 2024, we reduced the weight of materials used in these products by 9.6%\*1 compared with conventional baby diapers by minimizing the use of rubber in the gathers and redesigning the shape of the absorbent materials.

\*1 Calculated based on *Moonyman* large size diapers

##### • Reducing Adhesive Usage (Japan, Indonesia)

In November 2023, Unicharm launched *Lifree Thin Lightweight Comfortable Pants* with improved comfort that utilize an ultrasonic bonding technology to join thread elastic at the waist. The use of this technology reduces the amount of hot melt (adhesive) used in bonding by approximately 190 tons per year. Reducing the amount of adhesive makes the product easier to recycle, and improving the compression ratio when packaged increases loading efficiency, further contributing to a reduction in environmental impact during distribution and delivery.

Meanwhile, in Indonesia, *MamyPoko X-tra Kering* was introduced in December 2024, for which we improved the flexibility of these disposable baby diapers by reducing the amount of hot melt (adhesive) used in bonding.



### • Utilizing Organic Cotton Rather Than Super Absorbent Polymer (Japan)

In the *Sofy Hadaomoi ORGANIC* series of sanitary pads and panty liners, the surface sheet top layer that touches the skin is made of 100% organic cotton, which is manufactured with minimal environmental impact on soil and water quality. These products do not use super absorbent polymer.

##### • Deo Sheet Kirei Pad Pet Sheets (Japan)

In September 2024, Unicharm introduced *Deo Sheet Kirei Pad* pet sheets to maximize the use of regular *Deo Sheet* pet sheets. By applying *Deo Sheet Kirei Pad* over the urine spots, it eliminates the needs to change the entire sheet. This product has reduced plastic use by approximately 52% compared with conventional product and makes use of waste generated in the manufacturing process of nonwoven fabrics.

\*2 Based on Unicharm research for *Deo Sheet Ultra Absorbent* regular size pet sheets.  
The number of sheets used is based on preliminary product tests.

##### • Promoting Awareness of the Benefits of Using Both Disposable Diapers and Absorption Pads

At Unicharm, we recommend using both disposable adult diapers (outer layer) and urine absorption pads (inner layer). When used together, only the inner layer needs to be replaced, reducing waste by roughly 20% compared with using and replacing the outer layer alone.

Moreover, in the rural areas of Thailand, we promote the *Sharity* project to sell *Lifree Hygienic Pants* cloth diapers and *Lifree Sub-pad* urine absorption pads together rather than disposable adult diapers.





### • Promoting Reuse Through Refillable and Replaceable Products

Unicharm is committed to reducing waste through the supply of *Wave* cleaning products that use replaceable sheets, refillable *Moony* baby wipes, *Silcot* wet wipes, and other products that enable the container or the main unit to be reused repeatedly, thereby reducing the amount of plastic waste.

### • Reusable Water-Absorbent Sanitary Underwear (Japan)

*Sofy Fit-to-Body Absorbent Underwear*, released in January 2024, offers excellent absorbency and fit, and a single pair can be used safely, even on heavy days. They can also be washed for repeated use.



## Utilizing Plant-Derived Plastics

### • Products Using Biomaterials (Indonesia)

Since 2021, Unicharm's subsidiary in Indonesia has continued to launch environmentally friendly products in conjunction with World Environment Day. In June 2024, the fourth year of this project, we launched *MamyPoko Royal Soft Bio* disposable baby diapers, *CHARM Cooling Fresh Bio* and *CHARM Daun Sirih Bio* sanitary pads, and *Kirey Wipes Antibacterial Bio* wet wipes, all utilizing previously discarded biomaterials such as sugarcane pomace, limestone, botanical oils, and natural resins.



\* Materials using biomass or biomineral materials

### • SOFY Natural Love (Thailand, Philippines)

In conjunction with World Environment Day on June 5, 2024, Unicharm's subsidiaries in Thailand and the Philippines released *SOFY Natural Love* sanitary pads made of tissue using around 50% less bleach that have reduced the use of petrochemical-derived plastic materials in the packaging by roughly 20% through the use of biomass materials.



### • Wave Handy Wiper with Cat Design Case (Japan)

In March 2024, Unicharm released its limited-edition *Wave Handy Wiper with Cat Design Case*, for which it reduced the use of petrochemical-derived plastic materials by roughly 10% through the adoption of environmentally friendly biomass plastic.



### • Deo-Toilet Using Plant-Derived Plastic (Japan)

In June 2023, we released limited quantities of *Deo-Toilet*, a plastic molded litter box for cats weighing up to 5kg, and *Deo-Toilet Half-Cover Sets* incorporating plant-derived plastic for 10% of the raw materials used in the plastic toilet containers.



Toilet for cats weighing up to 5kg

Half cover

## Efforts Associated with Disposal and Recycling of Used Products

In some countries and regions where Unicharm provides products, there are areas where the process of waste separation and collection has yet to become widespread. As a manufacturer that provides consumer goods essential for hygienic daily life, we believe it is important to educate people about the correct disposal method for used products and spread awareness regarding sorting and recycling activities.



Example from Japan

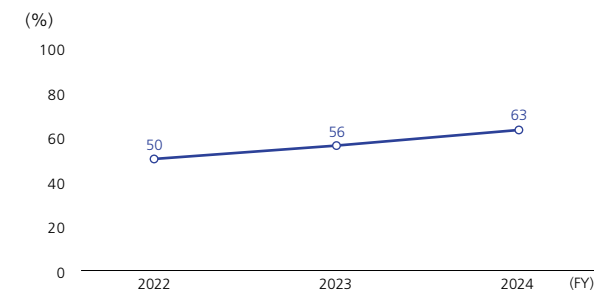


Example from India

## Raising Awareness About Proper Disposal of Used Products

Although the disposal methods for products after use vary between countries and regions, the entire Unicharm Group is raising awareness of proper disposal methods through product packaging displays and other methods in accordance with the laws and standards of each country and region. In fiscal 2024, we displayed disposal methods on product packaging in 63% of our sales area (10 out of 16 target countries and regions). We also conduct classes on sorting and recycling for children, who are the future of our society.

### ► Rate of Awareness of Proper Disposal of Used Products



### • Lecture on Waste Separation and Disposal (Indonesia)

In June 2024, Unicharm's local subsidiary in Indonesia conducted a lecture on waste separation at an elementary school in the province of Karawang. This initiative was first held in fiscal 2022 as part of the company's slogan "Ethical Living for SDGs." Held for the seventh time in June 2024, the more than 100 students who participated learned about the importance of and things to keep in mind when separating and disposing of waste. The company also donated four trash cans to help maintain the school's sanitary environment.



### • Education on Waste Separation (Thailand)

Unicharm's local subsidiary in Thailand provides education on waste separation in neighboring municipalities and at elementary and junior high schools. In fiscal 2024, approximately 300 local residents in four municipalities took part, learning about the separation and disposal of milk cartons and other beverage containers. We also explained the proper methods of separating general, hazardous, and recyclable waste (milk cartons and paper) to approximately 250 students at elementary schools.



### ■ Commitment to Recycling and Extended Producer Responsibility (EPR)

As part of its continued commitment to sustainability and environmental responsibility, Unicharm India Private Limited (UCLA), Unicharm's local subsidiary in India, recycled roughly 4,000 tons of plastic between fiscal 2023 and fiscal 2024 through the efforts of GEM Enviro Management Limited. This initiative is an essential element of UCLA's commitment to Extended Producer Responsibility (EPR) and contributes to reductions in plastic pollution and the promotion of a circular economy.

### ■ Promoting the Recycling of Used Disposable Diapers

Since 2015, Unicharm has conducted demonstration trials involving the recycling of disposable diapers. In June 2022, select nursing care facilities in Kagoshima Prefecture began using disposable adult diapers that use recycled materials for a portion of their absorbent paper, realizing the horizontal recycling of used disposable diapers. In our recycling system, collected diapers are washed and separated, then undergo a unique ozone treatment process to sterilize and recycle the extracted pulp, making it equivalent to unused raw materials in terms of hygiene, safety, and use.

We are also working to promote the understanding and spread of sorted collection through the installation of disposable diaper collection boxes in Shibushi City (since March 2024) and the distribution of used diaper collection bags made with plastic separated in the recycling process in Osaki Town (since December 2022). Furthermore, in November, 2024, Unicharm held a lecture on the theme "Reff: Disposable Diaper Recycling" as a part of activities to commemorate the 150th anniversary of the founding of Onomi Elementary School in Shibushi City, Kagoshima Prefecture.



Aiming to inspire those who will shape the future of our planet, Unicharm's corporate website offers an illustrated guide to recycling disposable diapers, intended for elementary and junior high school students.



**web An Illustrated Guide to Recycling Disposable Diapers**

<https://www.unicharm.co.jp/en/csr-eco/education.html>

### Initiatives Involving Promotion Items

Unicharm makes efforts to reduce the amount of plastic used in promotional materials for display products in retail stores. We aim for a 50% reduction in plastic throughout the Group by fiscal 2025 compared to base year fiscal 2019, and then zero plastic usage by 2030. This initiative was promoted first in Japan and is gradually being expanded to all Group companies. Following China, we also introduced this initiative in Vietnam and India in fiscal 2024.

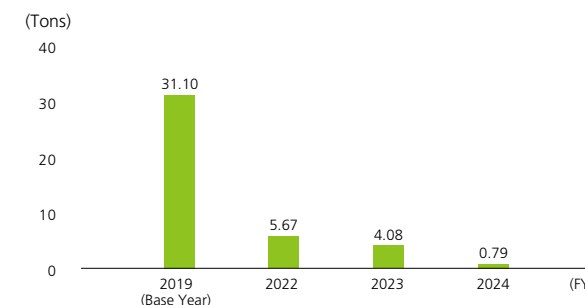
### ■ Initiatives in Japan

We are replacing the plastic used in display hooks and fixtures and point-of-purchase (POP) displays with paper materials and are developing racks made of paper. As a result, in fiscal 2024 plastic use in sales promotional items in Japan amounted to approximately 0.79 tons, a 97.5% reduction from that in fiscal 2019.



Sales promotional items made from paper

### ► Plastic Use in Sales Promotional Items (Japan)



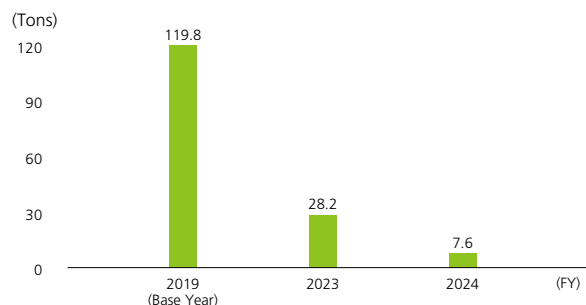
## Initiatives in China

Following the switch to paper POP displays, Unicharm's subsidiary in China introduced paper racks and verified degradable materials, as a result of which, plastic used in promotional items was approximately 7.6 tons in fiscal 2024, a 93.7% reduction from that in fiscal 2019.



Paper POP displays (China)

### Plastic Use in Sales Promotional Items (China)



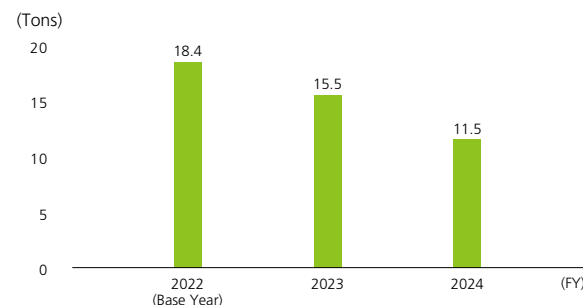
## Initiatives in Vietnam

Unicharm's local subsidiary in Vietnam is switching to paper-based displays and shelf liners with the aim of achieving zero plastic use in sales promotional items. As a result, in fiscal 2024, plastic used in sales promotional items was approximately 11.5 tons, a 37.4% reduction from that in fiscal 2022.



Paper display fixtures (Vietnam)

### Plastic Use in Sales Promotional Items (Vietnam)



## Initiatives in India

Unicharm's local subsidiary in India is working to reduce the use of plastic-based sales promotional items, such as swing pop displays and display racks. Through these efforts, plastic used in sales promotional items was roughly 120.9 tons in fiscal 2024, a 21.7% reduction from that in fiscal 2023.

### Plastic Use in Sales Promotional Items (India)

