

Performance

GRI301-3
 GRI306-2

Reduction of waste across product lifecycles

The Ajinomoto Group strives to minimize the waste of limited resources, implementing initiatives to reduce waste. We are committed to the effective use of any waste that is produced, aiming to recover 99% or more of any waste arising from our business activities.

The Group seeks to improve amino acid production efficiency by recovering by-products as resources and introducing new technologies. We are also engaged in a range of efforts in food production, including improving the precision of sales forecasts and conducting fine-tuned procurement. In this way, we minimize wasted raw materials and the amount of packaging materials used.

In fiscal 2019, generation of hazardous waste increased compared with the previous year due to increased utilization rate of biomass boilers aimed for the reduction of GHG emissions, which resulted in an increase in cinders (rice husk ash). However, the amount of recycled hazardous waste also increased, while the amount of landfilling of hazardous waste declined, due to the effective use of cinder as fertilizer and fertilizer raw materials. To deal with the risk of carcinogenic substance emissions that can occur when the rice husk is burned at high temperatures, we carried out work environment measurements to confirm that environmental risks are low.

Volume of waste and by-products; resource recovery ratio

(tons)

	FY2015	FY2016	FY2017	FY2018	FY2019
Hazardous waste (waste acid, waste alkali, waste oil, cinder)					
Generated	60,431	59,217	59,162	69,991	83,834
Recycled	59,457	58,890	58,862	68,422	83,429
Incinerated	14	54	24	40	60
Landfills	959	274	276	1,529	345
Non-hazardous waste					
By-products					
Generated	2,435,544	2,337,284	2,395,249	2,194,566	2,021,002
Composted	2,434,281	2,335,451	2,394,976	2,194,470	2,020,885
Incinerated	0	0	0	0	0
Landfills	1,263	1,832	273	96	117
Other					
Generated	140,464	178,861	178,989	174,651	181,246
Recycled	131,258	163,414	161,455	153,388	156,432
Incinerated	1,293	3,021	2,066	2,821	2,121
Landfills	7,913	12,426	15,467	18,442	22,693
Total generated	2,636,439	2,575,361	2,633,400	2,439,208	2,286,082
Total recycled	2,624,997	2,557,755	2,615,293	2,416,280	2,260,745
Total waste	11,442	17,606	18,107	22,928	25,337
Resource recovery ratio	99.6%	99.3%	99.3%	99.1%	98.9%

Contribution to a Circular Economy

Approach

GRI301-DMA
GRI301-3

Framework

GRI306-DMA
▶ Integrated Report
2020
P44

Container and packaging design for the environment

The Ajinomoto Group engages in environmentally conscious container and packaging design in accordance with ISO 18600 series and JIS Z 0130. We pursue the 3Rs by minimizing the amount of packaging material to the extent such does not interfere with original function considering how to easily separate and sort our packaging by material for recycling. We select and develop optimal containers and packaging, engaging in environmentally conscious design tailored to the different characteristics and shapes of our products. Containers and packaging include everything from plastic, pouches to trays, bottles, glass bottles, PET bottles, paper boxes, and exterior packaging (cardboard boxes). The Group also strives to reduce the amount of food loss and waste generated by extending best-before dates through the use of containers and packaging that better maintain product freshness. Our efforts here include adopting single-serve packaging that leaves no food waste.

Efforts toward environmentally conscious container and packaging design

The Ajinomoto Group deals in a wide range of containers and packaging for our products, including seasonings, packaged food products, frozen foods, coffee products, fats and oils, and more. We hold the Ajinomoto Group Food Conference and the Packaging Designers' Liaison Meeting, and other events for Group companies in Japan to share efforts and receive feedback in environmentally conscious container and packaging design.

Reducing plastic waste

In recent years, the problem of marine plastics have become a pressing global issue. The Ajinomoto Group uses approximately 270,000 tons of packaging materials annually, of which approximately 70,000 tons is plastic. About 40% of that amount is plastic used in Japan and 60% overseas. Substantial quantities of these materials are used in Southeast Asia, where there is increasing concern about the effects of plastic packaging materials released into the environment.

The Ajinomoto Group has set a goal to reduce Group plastic waste to zero by fiscal 2030. To promote this initiative more strategically, we launched a companywide project called *Project Zero* in March 2020.

Under this project, we pursue two main goals: (1) reduce plastic usage and (2) develop conditions needed for recyclability as resources. To reduce usage, we are thinning and downsizing packaging, replacing with paper materials where possible. To develop conditions needed for recycling, we will consider introducing mono-material plastic packaging and biodegradable plastics that are easy to recycle as resources.

See Integrated Report 2020 for more on our roadmap for reducing plastic waste.

Contribution to a Circular Economy

Performance

Cases of environmentally conscious container and packaging design

■ Ajinomoto Co., Inc.

- In October 2019, Ajinomoto Co., Inc. adopted a backless tube for use in *JINO AminoCeutical Cream* (face moisturizer). This new tube reduces plastic by roughly 90% compared to the previous version. The design prevents air from entering the tube after the cream is squeezed out, extending the quality retention period of the product.
- Ajinomoto Co., Inc. introduced ultrasonic sealing for film packaging in the six-stick trial version of our *Glyna*® and *Amino Aile*® products (supplements). This technique reduces plastic use by 32% compared to the previous version. The company received the Japan Packaging Contest 2019 Director of General, Industrial Science and Technology Policy and Environment Bureau, Ministry of Economy, Trade and Industry Award and the WorldStar Packaging Awards 2020 WorldStar Award for this design.

■ Ajinomoto AGF, Inc.

- Ajinomoto AGF, Inc. launched the *Blendy*® *Stick Café au Lait Eco Style* (stick coffee) in October 2019 as the first stick coffee product in the industry to use paper for a portion of the packaging. The company reduced plastic by roughly 20% compared to the previous version of stick product without having to change the product expiration date. The company received the Japan Packaging Institute Award in the 59th Japan Packaging Contest 2020 for this design.
- In February 2020, Ajinomoto AGF, Inc. adopted Shelf-Ready Packaging (SRP: environmentally conscious cardboard packaging requiring less labor) for packaging materials in our home-use PET bottled coffee and instant coffee bag products (excluding commercial-use versions). Compared to previous versions, time required to open boxes is reduced by roughly 10 seconds. At the same time, the product eliminates the need for plastic tape, reducing plastic use by nearly 3.4 tons per year.



JINO AminoCeutical Cream 20g, 40g



Glyna® and *Amino Aile*® six-stick trial package



Blendy® *Stick Café au Lait Eco Style*



Blendy® bottled coffee

Previous version (left)

Designed to open using the white plastic tape inside cardboard



SRP version (right)

Designed to be easy to open using perforations instead of plastic tape

Contribution to a Circular Economy

Performance

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▶ Participation in Initiatives

Cooperation with outside organizations

The Ajinomoto Group conducts activities to encourage consumer awareness of the 3Rs through collaboration with packaging recycling organizations and government-related groups in Japan.

As part of our efforts to reduce plastic waste, we participate as a founding member in CLOMA^[1], a platform for accelerating innovation by strengthening cross-industry cooperation across a wide range of stakeholders. We are active in secretary and sub-committee chair (promotion subcommittee) positions. In December 2019, we joined as corporate partner in Loop, a container collection and reuse enterprise developed by TerraCycle of the U.S., a global startup in recycling. This platform has been adopted by the Tokyo Metropolitan Government as a new business model for the sustainable use of plastics. An environmental impact verification test for 5,000 households in Tokyo is scheduled to begin in the fall of 2020. The Ajinomoto Group plans test sales of granule seasonings and instant coffee.

[1] The Japan Clean Ocean Material Alliance



Reusable packaging used under Loop (prototype)

■ Other Activities

- Presentation at the JAPAN PACK2019 Special Environment Forum
- Presentation at the Fiscal 2019 NEDO TSC Foresight Seminar
- Presentation at the Japan-UNIDO Multi-stakeholder Cooperation Dialogue
- Presentation at the 53rd Food Packaging Symposium

Contribution to a Circular Economy

Performance

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GRI307-DMA

Environmental assessment of containers and packaging

Before releasing new or revised products, the Ajinomoto Group conducts an environmental assessment based on a checklist. We use this assessment to confirm compliance with product-specific regulations and compatibility with Group environmental targets (Table 1). In addition, Ajinomoto Co., Inc. assesses the details of product revisions using a points-based Eco-Index for Containers and Packaging (Table 2).

Table 1: Environmental assessment checklist

	Objective	Checklist item
Compliance	Waste 3Rs	Compliance with environmental laws and regulations
	Food loss and waste reduction	Prevention of product degradation and damage
	Risk	Prevention of usage of potentially hazardous materials
Compatibility with Group environmental targets	Waste 3Rs	Use of packaging materials compatible with the 3Rs
	Sustainable procurement	Usage of sustainable packaging material(s)
	Food loss and waste reduction	Use of packaging materials that reduce food loss and waste
	Greenhouse gas emissions reduction	Improved loading efficiency in transport
	Foster consumer awareness of green living	Display of environmental labels

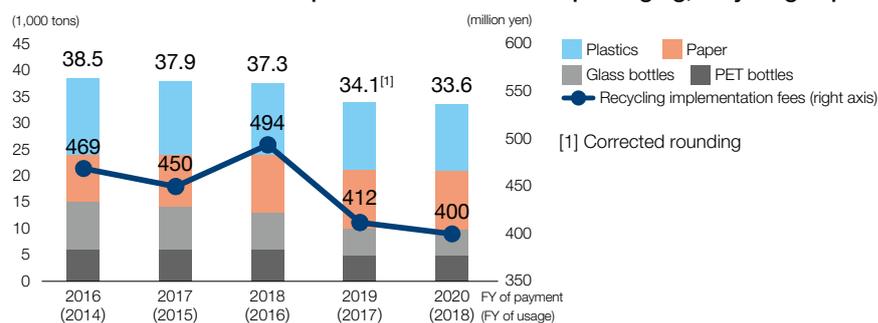
Table 2: Eco-Index for containers and packaging

Objective	Assessment item (example)	Assessment standard (example)	Points
Waste 3Rs	Plastic container/packaging weight reduction	At least 450 kg reduced per year	2
	Space per packaging volume	<15%	1
	Compatibility with recycling systems	Easily recyclable materials used in all areas	1
Greenhouse gas emissions reduction	LC-CO ₂ emissions reduction	Reduced compared to conventional product	1
	Transport efficiency	Loading efficiency ≥80%	1
Sustainable procurement	Use of environmentally conscious materials	Use of forest-certified paper	1
Consumer awareness of green living	Environmental labeling	Display of the <i>Aji-na Eco</i> mark	1
Food loss and waste reduction	Food loss and waste reduction	Extension of shelf life	1
		Adoption of single-serve packaging	1

Under the Containers and Packaging Recycling Act in Japan, the recycling of containers and packaging waste from households is consigned to the Japan Containers and Packaging Recycling Association. In fiscal 2018, Ajinomoto Co., Inc., Ajinomoto Frozen Foods Co., Inc., and Ajinomoto AGF, Inc. used a combined 33.6 kilo tons of containers and packaging subject recycling requirements, down to 98.8% compared with the previous fiscal year. Based on this usage, recycling implementation fee payments for fiscal 2020 amounted to 400.6 million yen, down to 97.2% compared with the previous fiscal year.

While our use of plastic containers/packaging and PET bottles was almost unchanged, use of glass bottles decreased to 94.2% compared to the previous fiscal year due to the end of sales of bottled gift products. This resulted in lower year on year recycling implementation fee payments for fiscal 2020 despite the higher unit price of recycling fees.

Amount of used household product containers and packaging; recycling implementation fees



Contribution to a Circular Economy

Performance

GRI303-1

Expanding the supply of highly biodegradable amino acid-based surfactants

Ajinomoto Co., Inc. has provided amino acid-based personal care ingredients to more than 5,000 companies in 55 countries since the company launched the world's first amino acid-based surfactant, made from glutamic acid, in 1972.

Amino acid-based surfactants reduce environmental impact due to high biodegradability. These surfactants are also mild on the skin. Growing concern about the global environment in recent years has resulted in a rapidly expanding market for amino acid-based surfactants. We have been expanding our supply system to meet the global demand.

Specifically, we plan to construct a new plant for glutamic acid-derived *Amisoft*® (liquid) in Brazil. The new plant is slated to begin operations in 2020. Once the plant is up and running, a portion of *Amisoft*® (liquid) production in Japan will be transferred to Brazil. The production facilities in Japan will be redirected to make glycine-derived *Amilite*® (liquid). This will increase the production capacity of *Amisoft*® (liquid) by approximately 60% and approximately 30% for *Amilite*® (total for all product forms). In this way, we will strive to resolve the supply shortages in amino acid-based surfactants.

Performance

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GRI417-1

▶ P81

▶ *Aji-na Eco* mark
(Japanese only)

Ajinomoto Group eco-labels: *Aji-na Eco* and *Hotto-suru Eco*

Since 2010, the Ajinomoto Group has labeled products with our original *Aji-na Eco* and *Hotto-suru Eco* marks. We have adopted these marks to respond to consumer needs for environmentally conscious products, as well as to let consumers know accurately which products are environmentally conscious. We also strive to effectively communicate changes made to product packages that are difficult for consumers to notice. These changes include package weight, thickness, size, and materials used.



Number of
Aji-na Eco mark
products
210

As of March 2020

What is *Aji-na Eco*?

Aji-na Eco is a term describing smart and ecological products or information provided by the Group. The logo mark expresses the image of the green of the earth, the pleasure of eating, and a global environment made even better through food.



Number of
Hotto-suru Eco
mark products
263

As of March 2020

What is *Hotto-suru Eco*?

Hotto-suru Eco identifies Ajinomoto AGF, Inc. products that have special environmental features. The logo mark expresses the comfort felt when drinking one's favorite beverage, colored in the green of the earth. The *Hotto-suru Eco* label was introduced in 2015.

■ Types of *Aji-na Eco* and *Hotto-suru Eco* marks

- Plant-based plastics
- Recycled plastic
- Sustainable timber
- Recycled paper
- Reduced packaging
- Refillable
- No tray usage
- Easy recycling and disposal
- No box usage
- Natural defrosting