

Zeon Corporation – Takaoka Plant

Takaoka Plant Profile

Main Products

Specialty synthetic rubbers, semiconductor-related products

Established in 1956, Takaoka Plant is a leading Zeon Group plant producing specialty synthetic rubbers and semiconductor-related products. The affiliated companies Optes Inc. and Zeon Medical Inc. are also located on the Takaoka Plant grounds. The Takaoka Plant has an R&D focus, with the Precision Optics Laboratory, Production Technology Laboratory, and Medical Research Institute operating within it. This enables greater integration between research and manufacturing to shorten the product development timeline.



Aerial view of Takaoka Plant

Plant Policy by the Plant Manager

To handle production for new business in Zeon's future, Takaoka Plant aims to achieve visualization of stability, safety, and technology, build a cost-focused flexible production system, and transform into an R&D-focused plant resilient to change. Takaoka Plant will carry out the following activities in FY 2017 with the policy of “fully innovating production and achieving safety and process performance indicators.”

1. Achieve zero safety, environmental, and security failure indicators by ensuring two-way communication, basic actions, and the “3S's.”
2. Improve visualization to reduce environmental impacts and achieve process stability and cost savings.
3. Increase the capacity of existing facilities and develop production technologies for new products.
4. Reform employee work styles, set personal health goals, and make improvements accordingly.



Takaoka Plant Manager
Koichi Asano

Safety Initiatives

Safety Policy

1. We are committed to achieving zero occurrences of safety accidents and irregularities.

The high-pressure gas and hazardous substances handled at our plant have the risk of leading to a major accident if handled incorrectly. Regarding accident prevention, we are focusing on building the knowledge of all employees and developing activities to ensure safety.

2. We undertake safety management activities with an awareness of our plant's characteristics.

Our plant is located near residential areas in the local community, and the effects of one accident or irregularity would not be contained to our plant grounds and customers but would cause great damage to neighboring residents as well.

We aim to eliminate safety accidents and irregularities, create a workplace in which employees can work with peace of mind, and be trusted by the local community as well as ensure that people can go about their daily lives with peace of mind.

3. We comply with safety-related laws and regulations, agreements, and rules and regulations that we have established ourselves.

We comply with safety-related laws and regulations, agreements Zeon Corporation and our plant have concluded, and internal rules and regulations.

4. We implement an ongoing cycle of improvements.

From a Safety First foundation, we develop our technologies and management techniques and tactics on an ongoing basis. For this purpose, we set safety targets, revise them annually, and always aim to achieve a higher level of safety.

Along with revising and improving our safety management activities, we periodically revise and improve our safety management system and enhance its content.

Environmental Impact Reductions

Environmental Policy

1. We are committed to achieving zero occurrences of environmental accidents and irregularities.

The high-pressure gas and hazardous substances handled at our plant have the risk of causing serious environmental contamination if handled incorrectly. We are focusing on building the knowledge of all employees and conducting initiatives to prevent accidents and environmental contamination.

In addition, we are aiming to achieve zero emissions to protect the environment on a local as well as global scale.

2. We undertake environmental improvement activities with an awareness of our plant's characteristics.

Our plant is located near residential areas in the local community and relies on the Oyabe River for industrial wastewater, and the effects of one accident or irregularity would not be contained to our plant grounds and customers but would cause great damage to neighboring residents as well. We aim to eliminate environmental accidents and irregularities, create a workplace in which employees can work with peace of mind, and be trusted by the local community as well as ensure that people can go about their daily lives with peace of mind.

3. We comply with environment-related laws and regulations, agreements, and rules and regulations that we have established ourselves.

We comply with environment-related laws and regulations, agreements Zeon Corporation and our plant have concluded, and internal rules and regulations.

4. We implement an ongoing cycle of improvements.

We develop economically feasible technologies and management techniques and tactics on an ongoing basis.

For this purpose, we set safety targets, revise them annually, and always aim to achieve a higher level of performance.

We also periodically revise and improve our environmental management system and enhance its content.

Scope of the Environmental Management System

(1) Organizational unit: Departments of Takaoka Plant, Zeon Corporation

Function: Manufacture of and pilot research on synthetic rubbers, manufacture of electronic materials

Physical boundary: Total area of Takaoka Plant, Zeon Corporation, 630 Ogino, Takaoka-shi, Toyama, Japan

In addition, buildings and grounds of Zeon Takaoka Group affiliated companies and laboratories within the Takaoka Plant grounds are outside of the scope, but provide support for environmental aspects.

(2) Organizational activities: Work processes of manufacturing from raw materials procurement, packaging, storage, and shipping

Products and services: Synthetic rubbers, synthetic latex, and electronic materials, providing information to customers, and response when complaints arise from customers and in the local community

(3) Authority and capacity of managing and influencing organization: Head Office divisions (including design and development), partner companies (product logistics, disposal of industrial waste, etc.), vendors (companies supplying raw materials, etc.)

Specific Initiatives

1. Reducing emissions of hazardous chemical substances

•With a target of zero emissions, Takaoka Plant has installed new equipment to recover organic solvents and is reducing emissions of organic chemical substances in phases.

2. Reducing industrial waste

•We study ways to recycle 100% of resources recovered from new facilities and maintain a record of zero tons of industrial waste sent to landfills for disposal.

3. Reducing impacts on air and water quality

•We are substantially reducing our CO₂ emissions by operating high-efficiency boilers that use liquefied natural gas as fuel.

4. Conserving resources and energy

•We are conserving energy by operating high-efficiency boilers.

•We avoid using electricity at peak times to reduce peak energy demand.

5. Environmental Data

*"0" indicates less than 0.5 tons, and "0.0" indicates less than 0.005 tons

Takaoka Plant		FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Substances subject to the PRTR Act	Consumption (tons)	125	16	21	17	22
	Emissions (tons)	0.1	0.0	0.0	0.0	0.0
Industrial waste	Amount generated before compacting (tons)	4,882	12,494	8,794	7,309	6,751
	Amount generated after compacting (tons)	535	1,056	437	363	336
	Amount sent to landfills (tons)	3.4	0.0	0.0	0.0	0.0

Atmospheric emissions	CO ₂ emissions (tons)	23,329	22,546	20,825	20,964	20,654
	SO _x emissions (tons)	9.5	3.2	0.0	0.0	0.0
	NO _x emissions (tons)	19	13	1.7	2.5	0.2
	Soot emissions (tons)	0	0	0.0	0.0	0.0
	Fluorocarbon leaks (tons of CO ₂)	–	–	–	47.6	0.6
Water resource consumption (1,000 m ³) (industrial water + groundwater + waterworks)		4,052	3,732	3,848	3,804	4,079
Wastewater	Total wastewater discharge (1,000 m ³)	4,408	4,890	3,322	3,213	3,428
	COD emissions (tons)	14.3	18.9	12.7	12.6	16.1
	Total phosphorus discharge (tons)	0.5	0.8	0.3	0.3	0.3
	Total nitrogen discharge (tons)	19	20	14	14	15
Energy	Consumption (crude oil equivalent, kL)	8,868	8,986	8,290	9,380	9,605
	Unit consumption index (FY 1990 = 100)	103%	104%	92%	102%	116%
Production equivalent (tons)		4,295	4,433	4,617	4,617	4,260

Relationship with Employees

Policy

At the Takaoka Plant, we conduct human resource development with the aim of drawing out, developing, and mobilizing the potential of every employee.

Specific Initiatives

We established the Takaoka Plant education scheme, which covers basic education, environmental and safety education, vocational education, and quality management education.

- Operator education: Education at the Monozukuri Training Center at Mizushima Plant for employees in their first to third years of employment
- Knowledge of plant operations: Operational skills education mainly through on-the-job training, practical education using emergency response drills and drills simulating abnormalities, and chemical engineering education using CAI to learn scientific principles

Relationship with the Local Community

Specific Initiatives

1. Contributing to the community through volunteering

- Beautification activities in the area surrounding the plant
- Himi coastal cleanup
- Fushikikokubu coastal cleanup



Coastal cleanup

2. Interactions with the local community

- We hold the Zeon Takaoka Group Summer Festival for local residents, employees, and their families to meet and interact
- We participate in local events, including the Futagami Manshou Kai industry–academia–government association, the Takaoka Manyo Festival in Takaoka City, and the Toyama Marathon in Toyama Prefecture



Zeon Takaoka Group Summer Festival

3. Plant tours

We give plant tours to introduce the plant's production activities and initiatives.

- Plant tours for community residents and groups
- Plant tours for schools
- Plant tours for other companies
- Plant tours for employees' families



Plant tours