



Occupational Health and Safety

All operating locations of Nanya have obtained ISO 45001 Management System certification and are committed to providing employees with a safe, healthy and high-quality workplace, while maintaining the safety of contractors. Nanya established the EHS Management Manual to provide a safe, healthy, and high-quality work environment to all workers at the Company, so that all workers of the Company have the ability to recognize hazards and prevent occupational accidents when engaging business activities, in hopes of achieving zero occupational injuries and zero occupational disease.

Risk Assessment and Hazard Control



Step.1

Identification of hazards

Verify which hazards exist in the workplace, which adverse effects may accompany these hazards, and whether employees are exposed or may be impacted. The basis for determination includes workplace inspection records, safety data sheet, accident and disaster records, standard operating procedures, equipment manuals, and repair records, and then risk assessment is conducted on this basis.



Step.2

Assessment of hazards

Workers who are exposed or may be exposed to physical, chemical, human factors, biological and other hazards of each operation, as well as operations that are particularly hazardous to health: ionizing radiation, noise, arsenic, indium, mercury, and n-hexane (a total of 298 people received special health examinations this year, and 0 people were under level 4 management) to verify whether their exposure levels comply with regulations, and understand whether the control equipment or management measures meet the requirements.



Step.3

Control of hazards

Hazards are controlled from the paths and workers that are exposed to hazards. Safety procedures were established and a total of 19,119 hours of safety and health training was provided to 1,818 participants in 2023 (in which 988 participants received 16,644 hours of training for certifications required by law and supervisors of special hazard operations). Furthermore, 56 emergency response drills were organized to strengthen the on-site training and response ability of personnel, including medium and high risks such as chemical leakage, rescue of injured personnel, and evacuation during an earthquake or fire accident. In addition to training, the Safety and Health Division conducted monthly on-site SWAT (Safety Walk and Talk) at the workplace of various teams for 36 themes. The 40 suggestions for improving operational behavior safety were put forward for personnel to act accordingly to the contents of regulations. Improvements to the operational environment focus on safety and health improvements for medium and high risks in clean rooms. The medium and high-risk items that are identified are prioritized for improvement after assessing their feasibility. A total of 27 medium and high-risk improvement action plans were proposed in 2023 to continue to reduce potential risks.

Description of Nanya's Medium and High Occupational Safety and Health Risks and Improvement Plan in 2023

Type of risk or hazard		Physical	Chemical	Human factors biological	Other hazards
Operations that are particularly hazardous to health		Ionizing radiation, noise	arsenic, indium, mercury, n-Hexane		
Medium and high risk sand improvement method	Description of general operating environment risks and improvement plan	Stair anti-slip and fall risk prevention improvement, safety cable installation and fall risk prevention, addition of convex mirror to prevent and improve collision risk, new service wagon purchase, and fall risk prevention improvements	Liquid (cooling water and chemicals) leakage risk prevention, chemical sampling pipeline splash risk prevention improvement	-	Improvement of commuting safety for employees
	Clean room risk description and improvement plan	Improvement of insufficient lighting risk in the working environment, improvement to prevent clamping risk of lifting vehicle, and improvement to prevent the risk of electric shock in the charging device of hydraulic lift	Prevention of liquid (cooling water and chemicals) leakage risk	-	Improvement of machine anti-seismic facilities to reduce the risk of financial losses due to natural disasters and accidents

· Consultation and communication between safety and health organizations and workers

Nanya places great importance on occupational safety and health. Occupational safety and health committee meetings are held every month at a regularity higher than what is required by the law. Each meeting is directed by the executive vice president, while the process is participated by senior managers, department heads, and committee members. Labor representatives make up 41.7% of the committee members. They jointly review the achievement statuses of various safety and health management goals, accident investigations, and the performance of safety and health projects. To strengthen communication on health and safety issues, in addition to existing channels of the Company (e.g. opinion box on the homepage), each department has appointed dedicated personnel to collect inquiries from employees, matters requiring communication, and proposals through department meetings, SWAT, and the Safety & Environment Event Tracking System (SETS). The personnel directly contact, receive information from, respond to, and consult the Safety and Health Division, establishing smooth channels for safety and health management and communication. The safety and health department scheduled 38 internal audits in 2023, and issued a total of 24 CARs, including incomplete forms. The deficiencies were corrected within the prescribed time limit, and internal audits allowed for two-way communication.

· Incident investigation procedures

When an incident is verified by central control after investigation (occupational accident, false alarm, incident that affects physical and mental health), the Safety and Health Division and the department that the accident occurred in will form an Incident Investigation Team to conduct a preliminary investigation and take corrective action. The Safety and Health Division strictly reviews corrective action taken for incident investigation. The department that the accident occurred in must conduct root cause analysis (RCA), including direct and indirect causes, and propose improvement and prevention measures to prevent the incident from occurring again before it may close the case. There was a total of 23 false alarms in 2023. The main improvement to false alarms this year was liquid leak alarm (11 cases, accounted for 78.3%), such as the prevention of valve leakage, and corresponding improvement and prevention measures were proposed.

Consultation and communication between the Occupational Safety and Health Committee and workers

Occupational safety and health management affairs and safety and health performance

Safety and health self-inspections and audits

Safety and health education and training plan and implementation

Measures that must be taken for operating environment monitoring results

Occupational hazard and incident investigation reports

Health management and health promotion affairs

Regulatory changes and response measures



Important Issues that the Occupational Safety and Health Committee Adopted Resolutions on in 2023

Compile an inventory of operations in slope areas and review the completeness of related operations

Comprehensive review of all gas source pipelines, valve status and personnel operating risks

Ensure the validity of the certificates of operation supervisors and first aid personnel

Complete trend analysis and classified management of exposure evaluation data

In response to incidents of employees injured from falling, departments gave safety reminders while walking around

Compile an inventory of high-temperature operations and management requirements in advance

Continue to carry out monthly regulatory identification to verify developments in occupational safety-related regulations

Incident investigation procedures



Incident occurs

Immediately report the incident to the central control room and forward it to personnel of the unit of the incident and safety and health personnel.

Assist with the first aid of injured patients and send them to the hospital



Incident Investigation Team

The unit of the incident and safety and health personnel immediately collected evidence from the site of the incident and launched a preliminary investigation and analysis of the cause of the incident.

The unit of the incident proposes corrective measures and reviews them with the safety and health department



Corrective action

The Safety and Health Division reviews the corrective action and tracks improvements

Safety and Health Division conducts review to close case

Occupational injury management

In 2023, a total of 3 occupational accidents occurred to employees in the fab, all of which were physical injuries (falls, collisions). The frequency of employee disabling injuries (number of disabling injuries/million working hours) was 0.41, and the disabling injury severity rate (number of work days lost/million working hours) was 18. Zero disabling injuries has not yet been achieved in the fab. In order to achieve the goal of zero disabling injuries in the fab, after investigating, analyzing and reviewing the root cause of the incident, Nanya is committed to continuous improvement in two aspects:

1. For "unsafe behaviors", the Company supervises employees' unsafe behaviors through job safety analysis of high risk operations, strengthened safety and health training, and engaged in SWAT to raise employees' safety awareness and reducing potential operational hazards, such as job safety analysis for preventing collision when pushing heavy objects on slopes.
2. For "unsafe environment", the Company improves unsafe environments through inherently safer (IS) designs of machinery and equipment, ensuring perfect mechanical safety protection design, regular pipeline and machine maintenance and inspection, and preventive exposure monitoring of the hygiene environment. We implement on-site independent management, supervisors manage high-risk operations by walking around and implement the audit scoring mechanism, in order to achieve 5S improvement of on-site environment cleanliness and maintain the safety and hygiene of the working environment, such as setting up fall hazard prevention facilities on stairs, walkways, and in the environment.

Contractor total work hours and occupational injury statistics

Year	2020	2021	2022	2023
Total work hours (hours)	404,054	339,387	562,977	409,371
Number of occupational injuries	0	1	0	1
No. of lost work days	0	7	0	8

Statistical Data on Total Work Hours of Employees, Occupational Injuries, and Occupational Illness

Year	2020	2021	2022	2023	2024Target
Total work hours (hours)	6,778,840	6,872,456	7,073,064	7,174,192	-
Number of recordable occupational injuries (no. of people)	1	0	0	3	-
Rate of recordable occupational injuries (frequency of disabling injuries)	0.14	0	0	0.41	0.18
No. of serious occupational injuries (no. of people)	0	0	0	0	-
Rate of serious occupational injuries	0	0	0	0	-
Disabling injury severity rate	6	0	0	18	6.2
Frequency-severity indicator	0.03	0	0	0.09	-
No. of occupational illnesses certified by physician	0	0	0	0	0
Ratio of occupational illnesses certified by physician	0	0	0	0	-
Absentee rate	0.33%	0.31%	0.22%	0.32%	0.55%
Internal and external independent inspection rate	98.7%	99.3%	94.1%	95.2%	93.9%
Number of proposals engaging all employees for safety and health	644	980	1,050	1,215	1,440

Note 1: In 2023, no deaths caused by occupational injuries occurred in the Company. The rate of serious occupational injuries (excluding number of deaths and those who lost more than six months of work days) was calculated with every million work hours as a unit.

Note 2: Frequency of disabling injuries (FR) and disabling injury severity rate (SR) are based on occupational hazard data reported by the Company, and do not include contractors, traffic accidents to and from work, or minor injuries (that can be treated via first-aid on site).

Note 3: The calculation of absenteeism rate includes sick leave, personal leave, official leave, and a new target was set for 2024.

Note 4: Independent inspection rate = (Number of deficiencies independently improved by departments/Number of deficiencies proposed by the Safety and Health Division)*100%

Contractor Safety Management

Contractor safety has always been an important safety and health management item of Nanya. We have also treated the personnel of contractors as our own employees, and show respect and gratitude to contractors for using their professional abilities, equipment, and technologies to assist Nanya in completing various projects. Besides monitoring quality and progress, we prioritize providing an excellent environment and management for projects to be smoothly and safely carried out. We provide guidance to contractors to conduct job safety analysis and engage in safe behavior, in order to achieve zero disasters and zero accidents.

Nanya has formulated complete contract management specifications in accordance with internal regulations of the Formosa Plastics Group as the basis for requirements on contractors. Every contractor that the Company partners with is required to sign a work contract and a work safety notice that outline the work environment, hazards, and relevant safety and health rules. Employees are encouraged to monitor contractors for unsafe conducts, and may report abnormal findings to team leaders, the Central Control Room, or work safety personnel for immediate tracking and improvement. All personnel of contractors must take the contractor pre-entry safety and health training course before entering our factory. The purpose of the course is to inform them of work environment hazards, regulations that require compliance, and to raise their safety awareness.

Measures to Strengthen Contractors' Construction Safety

▼ Selection of quality contractors	✔ Select contractors with quality technologies and safety management.
▼ Contractor work safety review	✔ Review contractors' work safety (such as qualification of occupational safety and health personnel).
▼ Pre-entry safety and health education and training	✔ Conduct regular classroom trainings every month.
▼ Pre-construction safety notice:	✔ Fulfill the duty to notify of work environment hazards.
▼ Pre-construction job safety analysis	✔ Conduct step-by-step analysis of hazards and preventive measures to achieve construction safety.
▼ Construction permit application and restrictions for high-risk operations	✔ Application for permission is required for all construction; high-risk operations, including hot work and operations in confined spaces and high places, are regulated.
▼ Daily toolbox meetings	✔ Daily toolbox safety meetings are required to notify of safety issues and keep records.
▼ Contractor inspections before, during, and after constructions	✔ Require daily independent inspections on construction sites and operations (using the 5S method, for example).

Pre-entry Safety and Health Training for Contractors and Training Completion Rate

2020	Coverage rate	100%	Number of trainees	3,024
			Total man-hours of training	142,128
2021	Coverage rate	100%	Number of trainees	1,753
			Total man-hours of training	50,837
2022	Coverage rate	100%	Number of trainees	2,829
			Total man-hours of training	169,740
2023	Coverage rate	100%	Number of trainees	2,292
			Total man-hours of training	112,308