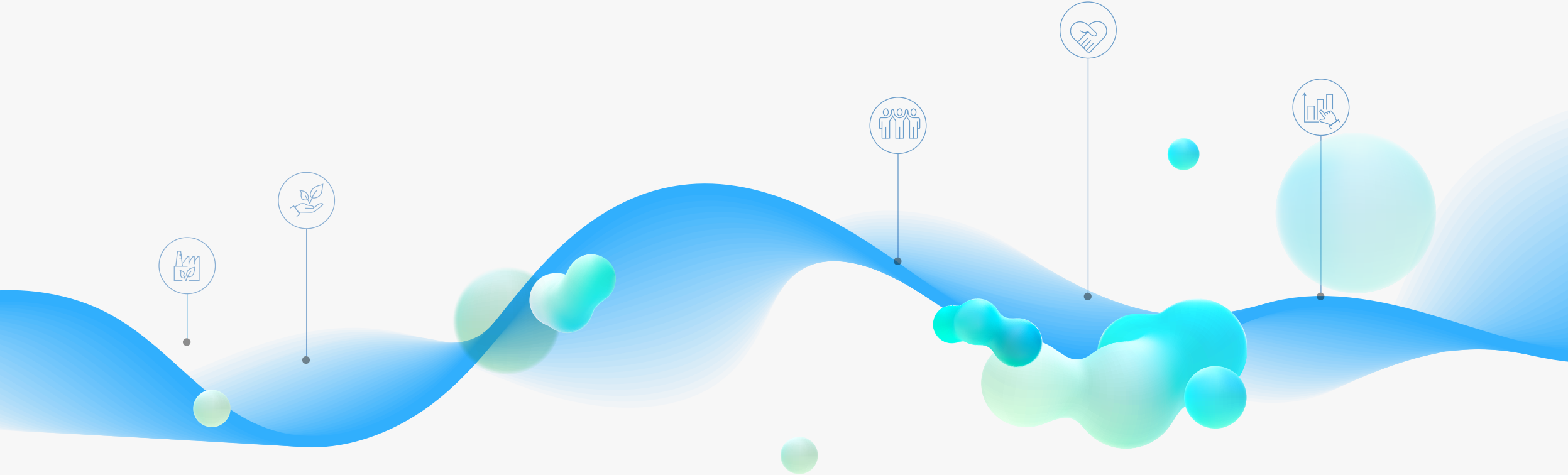


# Respectable Partner for Your Innovation through Chemistry

2023 Aekyung Chemical Sustainability Report



# About this Report

## Introduction

CEO Message  
Company Overview  
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Materiality Assessment

**Environmental:**  
Together with  
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## Appendix

### Report Overview

Aekyung Chemical Co., Ltd. publishes its second sustainability report in June 2024, based on the slogan "Creating a Better World with Unique Chemical Solutions." We will continue to publish an annual sustainability report to share our sustainability performance and future plans with our stakeholders.

### Reporting Period

This report covers Aekyung Chemical's sustainability activities and performance from January 1, 2023, to December 31, 2023. For quantitative performance, we have included data from 2021 to 2023 to enhance comparability. Any variations in scope due to differences from the previous year's data are specified through annotations in the report. Additionally, qualitative achievements deemed significantly important include content from the first half of 2024.

### Reporting Principles and Standards

This report is prepared in accordance with the global guidelines for sustainability reports, the Global Reporting Initiative (GRI) Standards 2021, and the Sustainability Accounting Standards Board (SASB) criteria. Financial information in the report is prepared based on the Korean International Financial Reporting Standards (K-IFRS) consolidated standards.

### Report Access and Inquiries

Aekyung Chemical's sustainability report can be viewed and downloaded from our website ([link](#)). For more detailed information or inquiries, please contact us using the information below.

**Website** <http://www.aekyungchemical.co.kr/>  
**Contact** Yoo Ju-sang, Senior Manager, Management RM Team  
**Email** [jusang.yoo@aekyung.kr](mailto:jusang.yoo@aekyung.kr)  
**Telephone** +82-2-6078-3239

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# CEO Message

Dear esteemed stakeholders,

I am Pyo Kyoung-won, CEO of Aekyung Chemical Co., Ltd.

Aekyung Chemical is maximizing its business competitiveness and pursuing continuous growth to achieve its mid-to-long-term vision of becoming a "Respectable Partner for Your Innovation through Chemistry."

In response to the increasing societal demand for sustainable corporate activities, Aekyung Chemical has introduced the ESG management policy titled "THE! Aekyung Chemical." This policy embodies our commitment to solidifying our ESG management framework, emphasizing the values of △Together with Environment, △Happy Society, and △Equitable Governance as the core principles of our company management.

Based on this ESG management policy, Aekyung Chemical is implementing the following company-wide ESG management practices.

**First, to transform Aekyung Chemical's business structure into an eco-friendly one, we have formulated the "Green Initiative 3050" strategy and are executing it across the organization.** This initiative aims to achieve △50% of sales from eco-friendly products, △50% usage of eco-friendly raw materials, and △50% reduction in carbon emissions by 2030. To accomplish these goals, we plan to diversify our products with recycled, biodegradable, and low-toxicity materials and increase the proportion of biomass and recycled raw materials. Additionally, we are striving to reduce carbon emissions by securing energy-saving technologies and boosting the use of renewable energy in our production facilities.

**Second, as a responsible member of society, Aekyung Chemical is conducting various activities to uphold and fulfill its obligations to societal values.** Our efforts include △strengthening human rights through mutual respect, △creating a workplace that balances work and life, and △protecting the local environment and supporting marginalized neighbors. We will continue to lead in fulfilling our corporate social responsibility and fostering a happier society.



**Respectable Partner  
for Your Innovation  
through Chemistry**

**Third, we are committed to establishing a transparent and fair governance structure.** To this end, we are working on △enhancing the independence and expertise of the Board of Directors, △strengthening ethical management and compliance, △introducing shareholder rights support systems, and △reinforcing shareholder return policies. These efforts aim to ensure ethical and responsible decision-making, allowing us to swiftly adapt to the rapidly changing business environment.

Aekyung Chemical will continue to strive to firmly establish ESG management. We ask for your interest and encouragement in our endeavors. We love you! We respect you! Let's work together!

Sincerely,

**Pyo Kyoung-won, CEO, Aekyung Chemical Co., Ltd.**

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# Company Overview

<b>Company Name</b>	Aekyung Chemical Co., Ltd.
<b>Headquarters Location</b>	9, 10F, 188, Yanghwa-ro, Mapo-gu, Seoul, Republic of Korea
<b>Establishment Date</b>	September 3, 2012
<b>Date of Merger</b>	November 1, 2021
<b>CEO</b>	Pyo Kyoung-won
<b>Industry</b>	Basic Chemical Manufacturing



**Number of Employees**

**750**

(As of December 31, 2023)



**Issued Shares**

**48,648,709** shares



**UNICHE** [juni:k] **AEKYUNG CHEMICAL**  
Aekyung Chemical: Combining "Uni" and "Chemi" into One

**Company Classification**

KOSPI-listed (Stock Code: 161000)

**Main Products**

Plasticizers, Phthalic Anhydride, Resins for Composite Materials, Coating Resins, Adhesives, Isocyanate Curing Agents, Polyester Polyol, Polyurethane Systems, Surfactants, Refined Glycerin, Biodiesel, Bio-heavy Oil, Hard Carbon, etc.

[Reference] Domestic and Overseas Subsidiaries

- 1) Domestic: Aekyung Specialty & Paint Co., Ltd., Aekyung BioPharm, Jungbu Country Club
- 2) Overseas: Aekyung (Ningbo) Chemical Co., Ltd., AK VINA Co., Ltd., Aekyung (Hong Kong) Co., Ltd., VINA Plasticizers Chemicals Company Limited

**Key Financial Information**

(As of December 31, 2023)

**Sales**

**KRW 1,793.7 billion**

(Consolidated basis, Headquarters: KRW 1,414.5 billion, Domestic and Overseas Subsidiaries: KRW 379.2 billion)

**Operating Profit**

**KRW 45.1 billion**

(Consolidated basis, Headquarters: KRW 36.4 billion, Domestic and Overseas Subsidiaries: KRW 8.7 billion)

**Total Assets**

**KRW 1,308.4 billion**

(Consolidated basis, Headquarters: KRW 1,070.9 billion, Domestic and Overseas Subsidiaries: KRW 237.5 billion)



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# Company Overview

## History

**Aekyung Petrochemical, a pioneer in domestic petrochemicals, has evolved into Aekyung Chemical by merging the strengths of Aekyung Chemical and AK Chemtech. Together, we continue to create new history.**

### 1970s

- Established Samkyung Chemico, Inc. (formerly Aekyung Petrochemical)
- Became the first certified petrochemical registration business in Korea
- Established Aekyung Chemical

### 1980s

- Established Aekyung Shell Co., Ltd. (formerly AK ChemTech)
- Opened Joongbu Country Club under Aekyung Development Co., Ltd.
- Completed construction of the Plasticizer Plant (P-4)
- Completed construction of the PCM Paint Factory

### 2000s

- Obtained ISO 14001 certification (Environmental Management System)
- Opened Aekyung R&D Center
- Completed construction of the Cationic & Nonionic Surfactant Synthesis Plant
- Established AK VINA (Vietnam)
- Established Aekyung (Ningbo) Chemical Co., Ltd. (China)
- Completed construction of the Biodiesel Plant

### 2020s

- Launched Aekyung Chemical Co., Ltd. (Merger of Aekyung Petrochemical, AK ChemTech, and Aekyung Chemical)
- Declared the ESG management policy "THE Management System."
- Selected for Top Companies in Environment Jobs
- Integrated AK BioPharm into a subsidiary
- Selected as Best Family Friendly Management
- Acquired a stake in VPChem (Vietnamese Plasticizer production and sales corporation)

### 1990s

- Completed construction of the Aekyung Chemical Cheongyang Plant
- Listed Aekyung Petrochemical Co., Ltd. on the stock exchange
- Established Aekyung Hong Kong Co., Ltd. (distribution corporation)
- Obtained ISO 9001 certification (Quality Management System)
- Completed construction of the continuous Plasticizer Plant (P-12)

### 2010s

- Completed construction of the Eco-friendly Plasticizer Plant (P-14)
- Completed construction of the Refined Glycerin Plant (P-15)
- Aekyung Petrochemical underwent a corporate division
  - AK Holdings (holding company) / Aekyung Petrochemical (business company)
- Completed construction of the Jeonju Plant (anode material for secondary batteries)
- Opened Aekyung (Shanghai) Investment & Trading Co., Ltd.



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# Company Overview

## Vision

### Respectable Partner for Your Innovation through Chemistry

#### Respectable Partner



- We aspire to be strategic partners for mutual growth in the long run.
- Embracing an ESG management system, we aim to transform the structure and essence of our business to become a respected company from customers.



#### Your Innovation

- Our mission is to provide optimal solutions for our customers' innovation.
- Through innovative products and services, we contribute to better quality of life for everyone.



#### Through Chemistry

- Building upon 50 years of history and tradition in the chemical industry, we continue to progress and evolve.
- We expand and strengthen R&D in the field of chemistry to take it to the next level.

## Core Values

These are the core values that Aekyung Chemical employees prioritize to achieve our vision.



#### Respect

Respect for individuals, their lives, and the places where they live



#### Excellence

Aspiring to the highest standards in all activities and outcomes



#### Agility

Embracing continuous change and execution to achieve the best results



#### Commitment

A mindset and passion to fulfill promises made to customers



#### Teamwork

Creating achievements as a team through openmindedness and effective communication



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# Company Overview

## Mid- to Long-Term Goals and Strategies

Sales Volume **2.34** million tons

Revenue **KRW 4** trillion

Operating Profit **KRW 300** billion

Number of Employees  
(Separate Basis) **1,300**

**Goals**

Revenue of KRW **4** trillion by 2030

Operating profit of KRW **300** billion by 2030

**Strategies**

Establish a high-growth,  
high-profit sustainable  
business structure to  
achieve mid-to-long-term  
goals



Maximize the competitiveness  
of existing businesses



Actively pursue eco-friendly new  
businesses



Establish an ESG management  
system



Enhance R&D capabilities  
and expand investments



Establish local business systems  
in key countries



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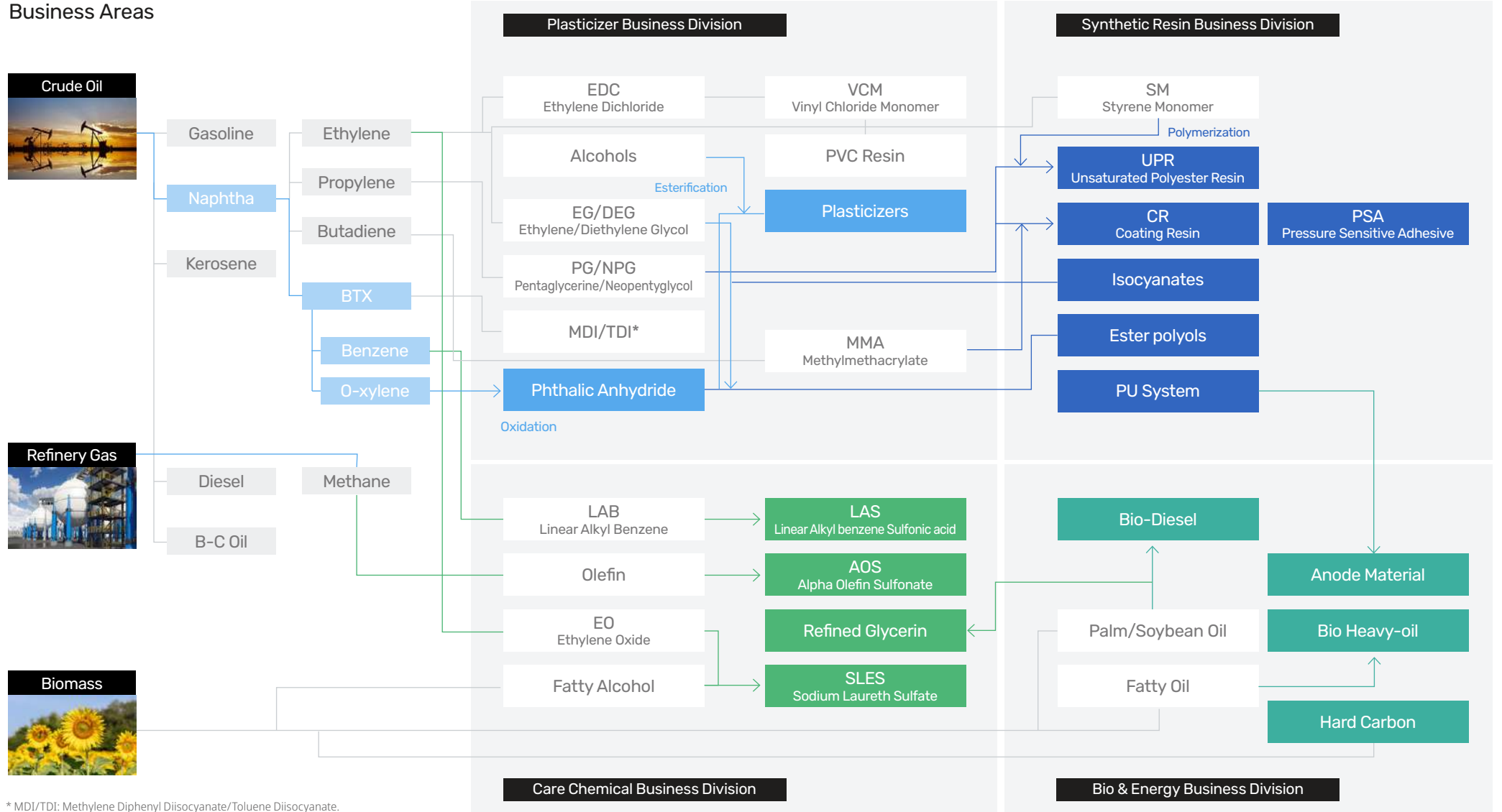
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## Business Areas



\* MDI/TDI: Methylene Diphenyl Diisocyanate/Toluene Diisocyanate.

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# Business Overview

## Business Division Overview

Aekyung Chemical is committed to creating a happier world for everyone with its unique "Chemi."

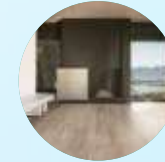
### Plasticizer Business Division

The Plasticizer Business Division encompasses industries that produce phthalic anhydride (PA) from basic petrochemical products and use PA as a raw material to manufacture various plasticizers. This division is fundamental to industries ranging from general household goods to construction and electrical sectors.

#### Plasticizers

Plasticizers are substances added to PVC and other plastics to enhance flexibility and various physical properties. They are used in products such as wallpapers, flooring, electrical cables, and synthetic leather.

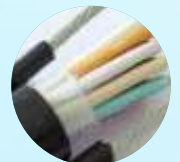
Aekyung Chemical offers a diverse range of plasticizers, from general-purpose to functional and eco-friendly types, supported by world-class production capacity and technical expertise.



Flooring



Wallpapers



Cable Coatings

#### Ester Lubricant Base Oil

Ester lubricant base oil, a fatty acid ester compound, is used as a base oil and as an additive in high-performance industrial and specialty lubricants within the Group V category. Aekyung Chemical's AKLUB-Series provides world-class production capacity and specialized solutions.



Refrigerant oil



Hydraulic fluid



Insulating oil

#### Phthalic Anhydride (PA), Maleic Anhydride (MA), Itaconic Acid (ITA)

PA (Phthalic Anhydride), MA (Maleic Anhydride), and ITA (Itaconic Acid) are fundamental compounds used as primary raw materials and synthetic intermediates in various resins. Since the commercialization of PA in Korea, Aekyung Chemical has continually developed technology and expanded production, achieving world-class quality and production capacity of 210,000 tons per year.



Paints



UPR



Polyol

- Plasticizers
- Ester Lubricant Base Oil
- Phthalic Anhydride (PA), Maleic Anhydride (MA), Itaconic Acid (ITA)



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### Synthetic Resin Business Division

The Synthetic Resin Business Division produces various materials through the chemical synthesis of basic petrochemical products extracted from naphtha and natural gas. Key products include unsaturated polyester resins, coating materials, hardeners for materials, acrylic adhesives, and urethane adhesives. Additionally, it supplies polyester polyol, a raw material for polyurethane.

#### Resin Solution Products

Unsaturated polyester resin solutions are widely used across various industries due to their excellent moldability, workability, and mechanical properties. Vinyl ester resin solutions offer superior chemical resistance and mechanical properties.

#### Material Hardeners

Material hardeners are used to enhance the chemical properties of materials through cross-linking and curing via urethane chemical reactions based on isocyanate raw materials. We offer a variety of hardener solutions that provide optimal performance for specific applications across numerous industries.

#### Coating Solution Products

Our coating solution products include oil-based acrylics, alkyds, water-based acrylics, and urethane materials, serving as fundamental raw materials for paints, inks, and coatings, suitable for a wide range of purposes.

#### Bonding Solution Products

Bonding solution products adhere to other surfaces with minimal pressure, offering strong cohesion and elasticity that allows them to separate cleanly without contaminating the substrate. They maintain permanent tackiness at room temperature and are not activated by solvents or heat, nor do they change in physical properties.

Adhesives are used in a broad range of industries including automotive, electrical, construction, distribution, printing, and paper, as well as in emerging fields like electronics, mobile phone touchscreens, and medical applications.

#### PU Solution Products

We supply polyester polyol with an aromatic structure, offering excellent insulation and flame retardancy, as well as polyurethane systems.

- Resin Solution Products
- Material Hardeners
- Coating Solution Products
- Bonding Solution Products
- PU Solution Products



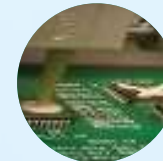
Artificial  
Marble



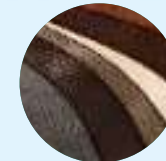
Pipes



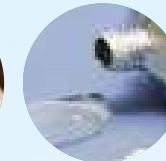
Paints



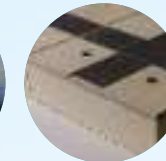
Adhesives for  
Electronic Materials



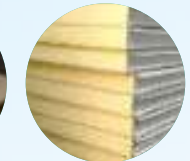
Synthetic  
Leather



Adhesives



Insulating Materials  
for LNG Vessels



Urethane  
Insulation

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### Care Chemical Business Division

The Care Chemical Business Division produces a variety of basic chemical materials, including surfactants, using raw materials derived from naphtha and biomass.

#### Surfactants

Surfactants are substances that adsorb at interfaces in aqueous solutions to reduce surface tension, providing excellent foaming and cleaning capabilities. They are key raw materials in personal care products, detergents, and household or industrial cleaners. Surfactants are primarily categorized as anionic, cationic, zwitterionic, or nonionic.

Aekyung Chemical's anionic surfactants, produced via a continuous gas-liquid process, boast the highest production capacity in Korea.

#### Low-Irritation Surfactants

Low-irritation surfactants offer various benefits such as reducing skin irritation during the cleansing stage, improving moisture retention, and enhancing the skin barrier. Aekyung Chemical's low-irritation surfactants are sulfate-free and highly biodegradable, providing eco-friendly solutions beneficial to both humans and the environment.

#### Refined Glycerin

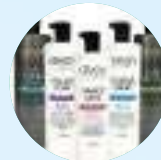
Refined glycerin is used across multiple industries, ranging from cosmetic and food additives to industrial raw materials (e.g., PPG).

#### Cosmetic Ingredients

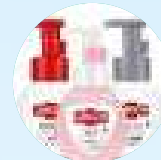
As functional additives for cosmetics, including makeup, skincare, and personal care, these ingredients enhance texture, provide a soft-focus effect, and improve dispersion. They can be controlled in size and shape, including spherical, wrinkled, and hemispherical forms, to achieve various physical properties.

#### Polymer Products

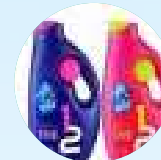
Water-soluble polymer products are used as functional additives in laundry detergents, cosmetics, ceramics, pesticides, and water treatment agents, imparting diverse properties to care chemical products.



Shampoo



Hand Wash



Laundry Detergent



Body Wash



Industrial Cleaners



Emulsifiers

- Surfactants
- Low-Irritation Surfactants
- Refined Glycerin
- Cosmetic Ingredients
- Polymer Products



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### Bio & Energy Business Division

The Bio & Energy Business Division produces and sells eco-friendly alternative fuels and energy sources derived from biomass, aiming to reduce environmental pollutants emissions.

Biodiesel and bio-heavy oil are environmentally friendly alternative fuels made from animal and vegetable oils, recovered oils, and oleo-chemical by-products. Demand for these fuels is rising due to the implementation of the Renewable Fuel Standard (RFS) and Renewable Portfolio Standard (RPS) by the government. Additionally, voluntary demand for reducing greenhouse gas emissions in the transportation and power generation sectors is expected to further increase their demand.

Furthermore, the demand for secondary batteries used in electric vehicles, energy storage systems (ESS), and small devices is expanding, and new hard carbon products used as anode materials are actively being developed.

- Biodiesel
- Bio-heavy Oil
- Hard Carbon

### Biodiesel

Biodiesel, made from animal and vegetable oils and recovered oils, can be blended with diesel for use in existing vehicle engines without modification, thus reducing greenhouse gas emissions.

Biodiesel has similar fuel performance to regular diesel, reduces carbon dioxide and particulate matter emissions, and is highly biodegradable. With the expansion of mandatory blending ratios under the government's Renewable Energy Act, demand for biodiesel is expected to increase.



Alternative Fuel for Internal Combustion Engines

### Bio-heavy Oil

Bio-heavy oil is an eco-friendly power generation fuel processed from animal and vegetable oils and by-products of biodiesel to meet fuel properties.

It can be directly applied to existing B-C oil and heavy oil facilities, reducing air pollutants such as sulfur oxides, nitrogen oxides, and fine dust compared to B-C oil. As a major energy source, bio-heavy oil is used to fulfill the obligations of power generation companies under the government's Renewable Portfolio Standard (RPS).



Renewable Fuel for Power Generation



Fuel for Industrial Boilers

### Hard Carbon

Hard carbon is a battery material used as an anode in lithium-ion and sodium-ion batteries, one of the four major materials in secondary batteries. As secondary batteries are essential components in electric vehicles, ESS, and IT products, the demand for hard carbon is expected to continue growing.

In particular, Aekyung Chemical's self-developed hard carbon products are highly regarded for their excellent lifespan, rapid charge/discharge, and low-temperature performance, making them ideal for high-power secondary batteries. Recently, with advancements in the commercialization of sodium-ion batteries, improved hard carbon products with enhanced capacity and efficiency have been developed.



Lithium Secondary Batteries for Automobiles



Lithium-ion Capacitors (LIC)



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## Domestic Business Sites



**Headquarters**

9, 10F, 188, Yanghwa-ro, Mapo-gu,  
Seoul, Republic of Korea



**Cheongyang Plant 1**

1547-64, Chungui-ro, Jeongsan-myeon,  
Cheongyang-gun, Chungcheongnam-do,  
Republic of Korea

**Main Products:** Resins for composite  
materials, coating resins, adhesives,  
isocyanate curing agents, etc.



**Cheongyang Plant 2**

1547-95, Chungui-ro, Jeongsan-myeon,  
Cheongyang-gun, Chungcheongnam-do,  
Republic of Korea

**Main Products:** Surfactants, etc.



**Daejeon R&D Center**

120, Sinseongnam-ro, Yuseong-gu,  
Daejeon, Republic of Korea



**Jeonju Plant**

283, Wanjusandan 6-ro,  
Bongdong-eup, Wanju-gun,  
Jeonbuk-do, Republic of Korea

**Main Products:** Hard carbon, etc.



**Ulsan Plant**

81, Sanggae-ro, Nam-gu, Ulsan,  
Republic of Korea

**Main Products:** Plasticizers, phthalic  
anhydride, biodiesel, bio-heavy oil,  
refined glycerin, polyester polyol,  
polyurethane systems, etc.



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## Domestic & Overseas Affiliates



**Aekyung Shanghai Investment Management**

SHANGHAI MART TOWER No.2299 Yan an WEST ROAD, SHANGHAI, CHINA

**Main Business:** Trading



**Aekyung (Ningbo) Chemical Co., Ltd.**

Tai Xing Lu, Zhenhai Qu, Ningbo Shi, Zhejiang Sheng, CHINA

**Main Products:** Plasticizers, polyester polyol, etc.



**Aekyung Hong Kong Co., Ltd.**

KAI TAK COMMERCIAL BUILDING  
161 CONNAUGHT ROAD CENTRAL,  
HONGKONG

**Main Business:** Trading



**AK VINA**

Go Dau Industrial Zone, Long Thanh District,  
Dong Nai Province, Vietnam

**Main Products:** Surfactants, resins for  
composite materials, PCM coatings, etc.



**VINA Plasticizers Chemical  
Company LIMITED**

Go Dau Industrial Zone, Long Thanh  
District, Dong Nai Province, Vietnam

**Main Products:** Plasticizers



**Aekyung Specialty & Paint Co., Ltd.**

169, Okgucheonseo-ro, Siheung-si,  
Gyeonggi-do, Republic of Korea

**Main Products:** Paints for plastics,  
PCM paints, industrial paints, heavy-  
duty coatings, architectural paints,  
surface treatments, etc.



**AK BioPharm**

81, Sanggae-ro, Nam-gu, Ulsan,  
Republic of Korea

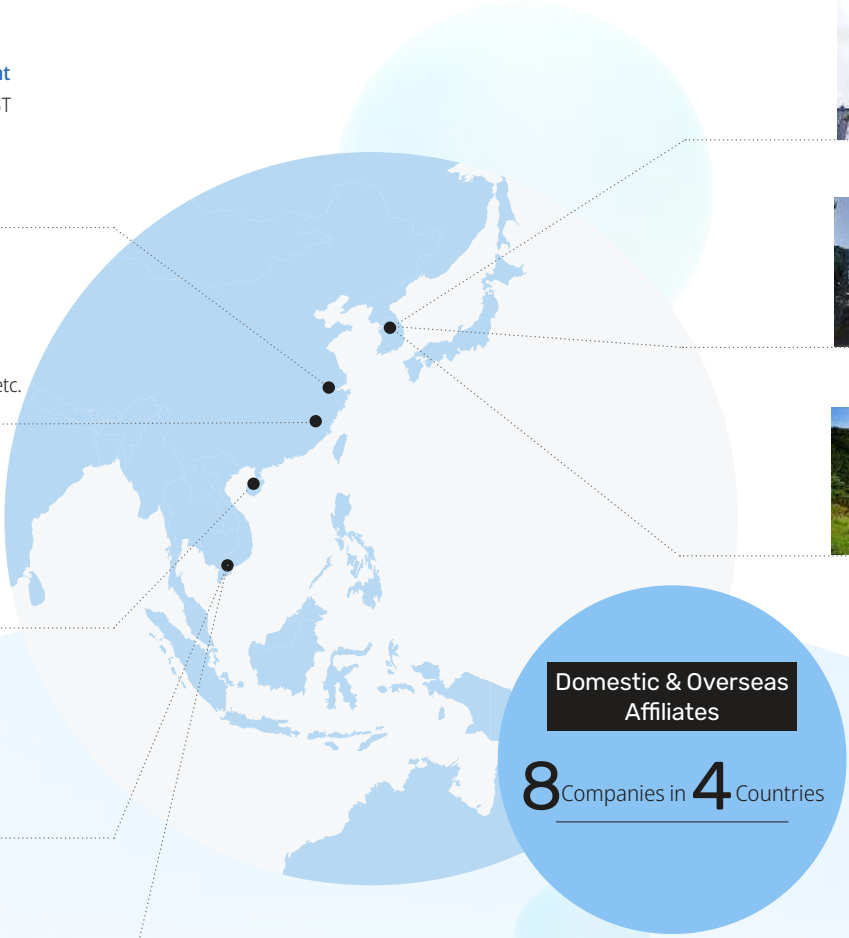
**Main Products:** OMEGA-3, OMEGA-7,  
API, dietary supplements, etc.



**Jungbu Country Club**

451, Gyeongchung-daero,  
Gonjam-eup, Gwangju-si,  
Gyeonggi-do, Republic of Korea

**Main Business:** Golf course operation



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Together with  
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**Social:**  
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Equitable  
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Appendix

# THE Management System

## THE! Aekyung Chemical Management Policy

THE! Aekyung Chemical's management policy, represents "Together with Environment," "Happy Society," and "Equitable Governance." With the slogan of "Better," we declare our goal to build a "Better" world, based on ESG-focused strategies, by coexisting with the environment, creating a happy society, and establishing fair governance.



T

**Together with Environment**  
Together with the Environment



H

**Happy Society**  
Creating a Happy Society



E

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# THE Management System

## Together with Environment

### Together with the Environment



Aekyung Chemical is establishing a sustainable business structure in alignment with the global carbon neutrality trend by embedding EHS (Environment, Health, Safety) management, enhancing environmental awareness, and building a resource circulation system. Under the ESG management policy, we are dedicated to researching and developing eco-friendly technologies and products to strengthen our sustainable product portfolio. Furthermore, we continue to invest in reducing energy consumption, minimizing the emission of environmental pollutants, and conducting eco-friendly management to reduce carbon emissions.



**Environmental Policy**

- EHS management internalization
- Expansion of environmental investments
- Enhancement of environmental awareness



**Eco-friendly Solutions**

- Strengthening of eco-friendly R&D
- Fostering eco-friendly products and business expansion
- Increasing the proportion of eco-friendly raw materials



**Green Operation**

- Greenhouse gas emissions management
- Minimization of pollutant emissions
- Reduction of energy consumption

## Happy Society

### Creating a Happy Society



Aekyung Chemical strives to create a happy society. We ensure diversity and pursue a fair organization free from discrimination, enabling all employees to reach their full potential. We conduct safety and health activities to build a “sustainable and safe workplace,” prevent human rights violations, and fulfill our social responsibilities through our ethics and human rights management system. Furthermore, we engage in community contributions, support various social classes, and continuously protect the environment. We have established a corporate culture where all employees voluntarily participate in social contribution activities.



**Social Contribution**

- Love Together: Coexistence with local communities
- Diverse Together: Support for various social classes
- Green Together: Continuous environmental protection



**Building a Safe Workplace**

- Strengthening of safety and health management, prevention of major industrial accidents
- Enhancement of chemical management activities
- Collaboration on safety management with partners



**Happy Workplace**

- Expansion of human rights management, promotion of diversity and mutual respect
- Work-Life balance through various welfare programs
- Recruitment of top talent, ensuring fair evaluations

## Equitable Governance

### Building Fair Governance



Aekyung Chemical builds fair governance for sustainable management. We have established ethical and compliance management systems to provide transparent and reliable management information, reducing the risk of legal violations and enhancing external credibility through fair trade compliance activities. We also strive to protect stakeholder rights by introducing systems for shareholder rights exercise. Aekyung Chemical is committed to operating a sound and stable governance structure and building a more balanced governance system.



**Transparent Management**

- Establishment of an ethical management system
- Development of a compliance management system
- Building an internal control system



**Board of Directors**

- Strengthening of board independence
- Formation and operation of diverse specialized committees



**Respecting Shareholders**

- Provision of clear and reliable management information
- Engagement in shareholder rights protection activities
- Implementation of shareholder return policies



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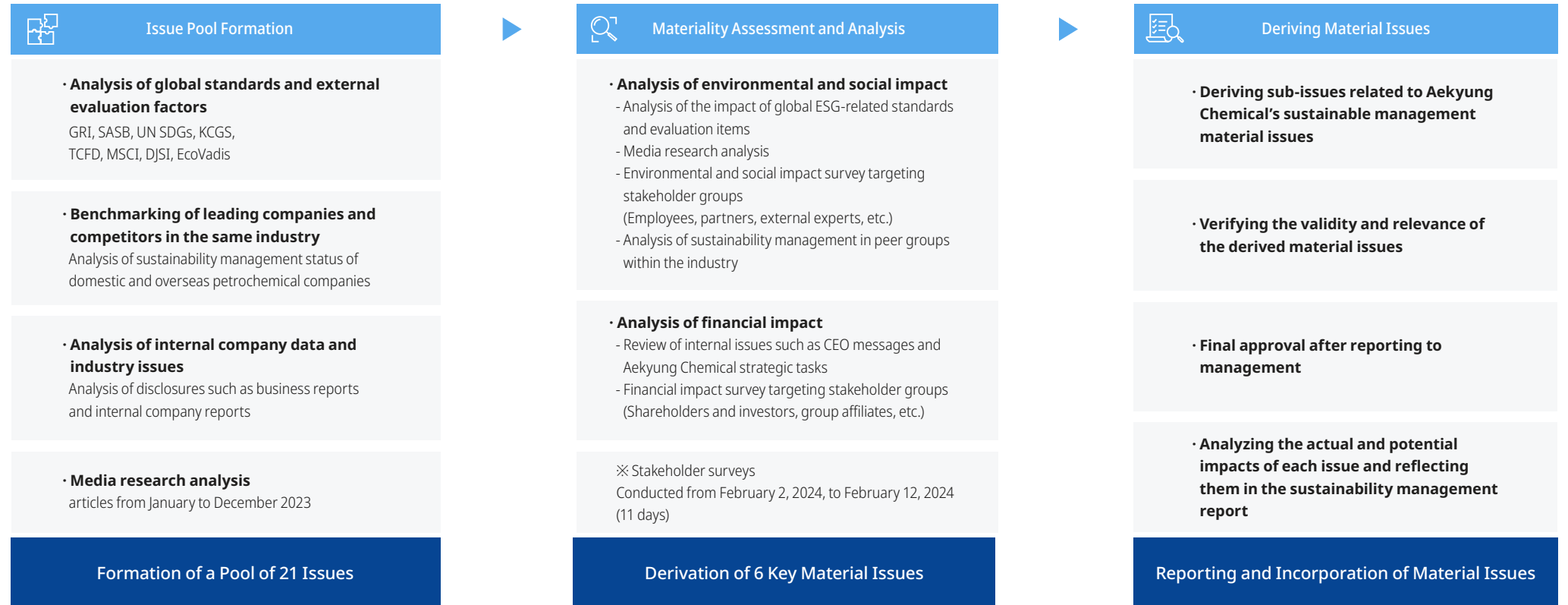
Appendix

# Materiality Assessment

Aekyung Chemical conducts an annual materiality assessment to identify and manage issues critical to sustainable management. The 2023 materiality assessment was a dual materiality assessment that considered both non-financial and financial impacts of the company's activities, as well as internal and external environmental and social influences. Accordingly, we closely analyzed the demands of internal and external stakeholders, domestic and international ESG regulations, evaluation metrics, and industry benchmarks. Based on this analysis, a quantitative assessment was conducted, and six key material issues requiring priority response were selected with the approval of the management.

These selected material issues will be incorporated into Aekyung Chemical's future sustainable management strategies and goals.

## Materiality Assessment Process



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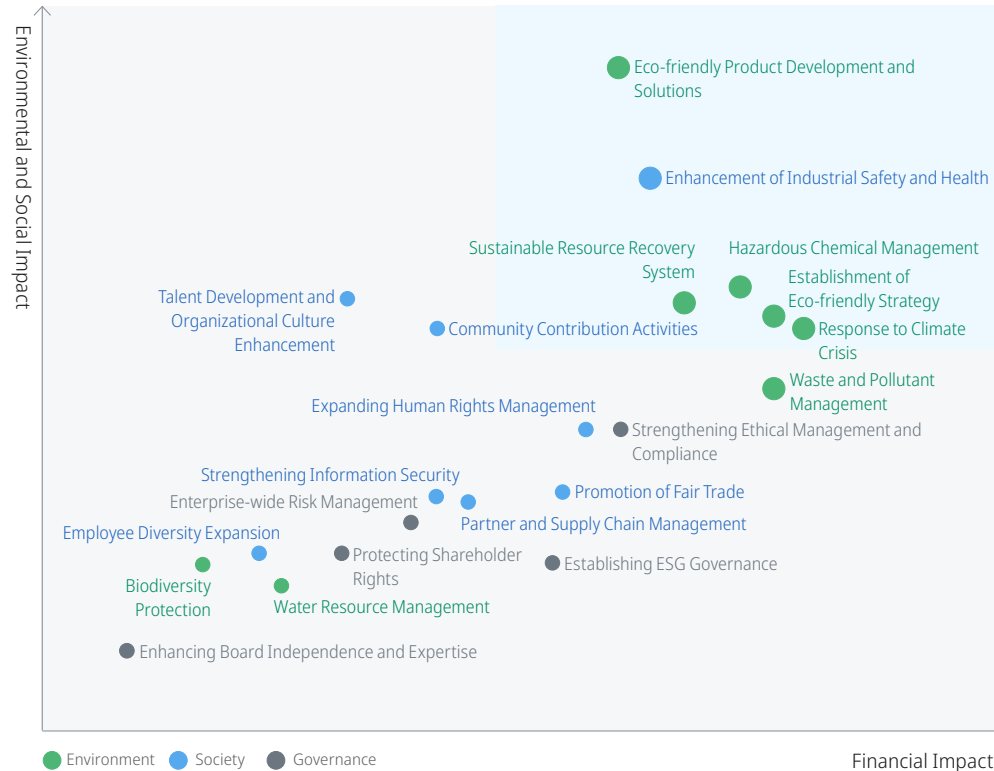
**Governance:**  
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Governance

**Appendix**

# Materiality Assessment

## Materiality Assessment Results

Aekyung Chemical has selected six key material issues by considering both outward environmental and social impacts and inward financial impacts.



## Selection of Key Material Issues

Category	Key Material Issues	GRI Index	Environmental/ Social Impact	Financial Impact	Report Page
E	Eco-friendly Product Development and Solutions	301 Raw Materials	●	●	30-33
S	Enhancement of Industrial Safety and Health	403 Occupational Health and Safety	●	●	56-59
E	Response to Climate Crisis	305 Emissions / 302 Energy	◐	●	27-29
E	Hazardous Chemical Management	303 Water and Wastewater / 306 Waste	●	●	39-40
E	Establishment of Eco-friendly Strategy	2-23 Policy Commitments / 2-24 Policy Commitment Internalization	●	●	21-26
E	Sustainable Resource Recovery System	301 Raw Materials	●	●	34-36
E	Waste and Pollutant Management	305 Emissions / 306 Waste	◐	●	37-38
G	Strengthening Ethical Management and Compliance	205 Anti-corruption	◐	●	78-79
S	Community Contribution Activities	203 Indirect Economic Effects	●	◐	60-63
S	Expanding Human Rights Management	205 Anti-corruption	◐	◐	44-46
S	Talent Development and Organizational Culture Enhancement	401 Employment	●	○	47-54
S	Promotion of Fair Trade	206 Anti-Competitive Practices	◐	◐	66-69
S	Partner and Supply Chain Management	-	◐	◐	64-65
S	Strengthening Information Security	418 Customer Privacy	◐	◐	70-71
G	Establishing ESG Governance	2-13 Delegation of Responsibility for Impact Management / 2-16 Communication on Significant Issues	○	◐	77
G	Enterprise-wide Risk Management	2-26 Advisory Mechanism for Conducting Responsible Business	○	○	80
G	Protecting Shareholder Rights	201 Economic Performance	○	○	73-74
S	Employee Diversity Expansion	405 Diversity and Equal Opportunity	○	○	55
E	Water Resource Management	303 Water and Wastewater	○	○	41-42
E	Biodiversity Protection	304 Biodiversity	○	○	42
G	Enhancing Board Independence and Expertise	2-15 Conflict of Interest	○	○	75-76



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Eco-friendly Strategy  
Response to Climate  
Crisis

Eco-friendly Product  
Development and Solutions  
Sustainable Resource  
Recovery System

Waste and Pollutant  
Management

Hazardous Chemical  
Management

Water Resource  
Management

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# Together with Environment

## Environment

Establishing an Eco-friendly Strategy	21
Responding to the Climate Crisis	27
Eco-friendly Product Development and Solutions	30
Sustainable Resource Recovery System	34
Waste and Pollutant Management	37
Hazardous Chemical Management	39
Water Resource Management	41
Biodiversity	42



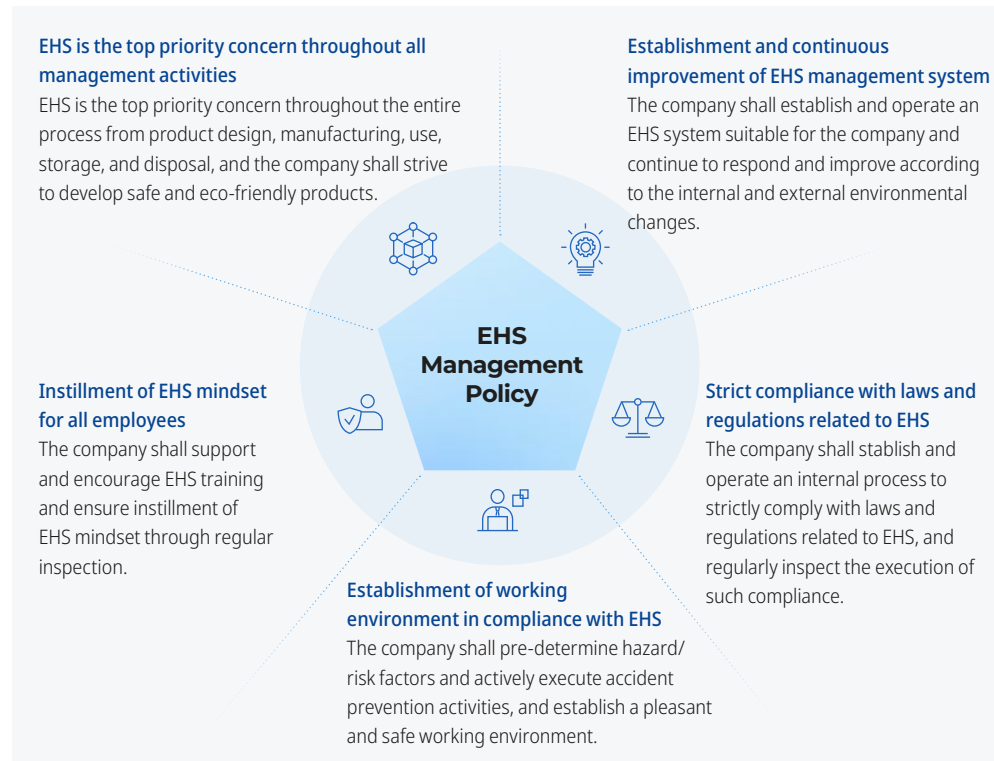
# Eco-friendly Strategy Establishment Key Issues for 2023

## EHS (Environment, Health, Safety) Management Framework

Aekyung Chemical has upgraded its company-wide EHS management system and developed strategies to achieve its goal of "Zero EHS & Compliance Issues." We aim to strengthen an effective environmental management system and strive to become a "Global Leader in the Chemical Industry Creating Sustainable Future Value."

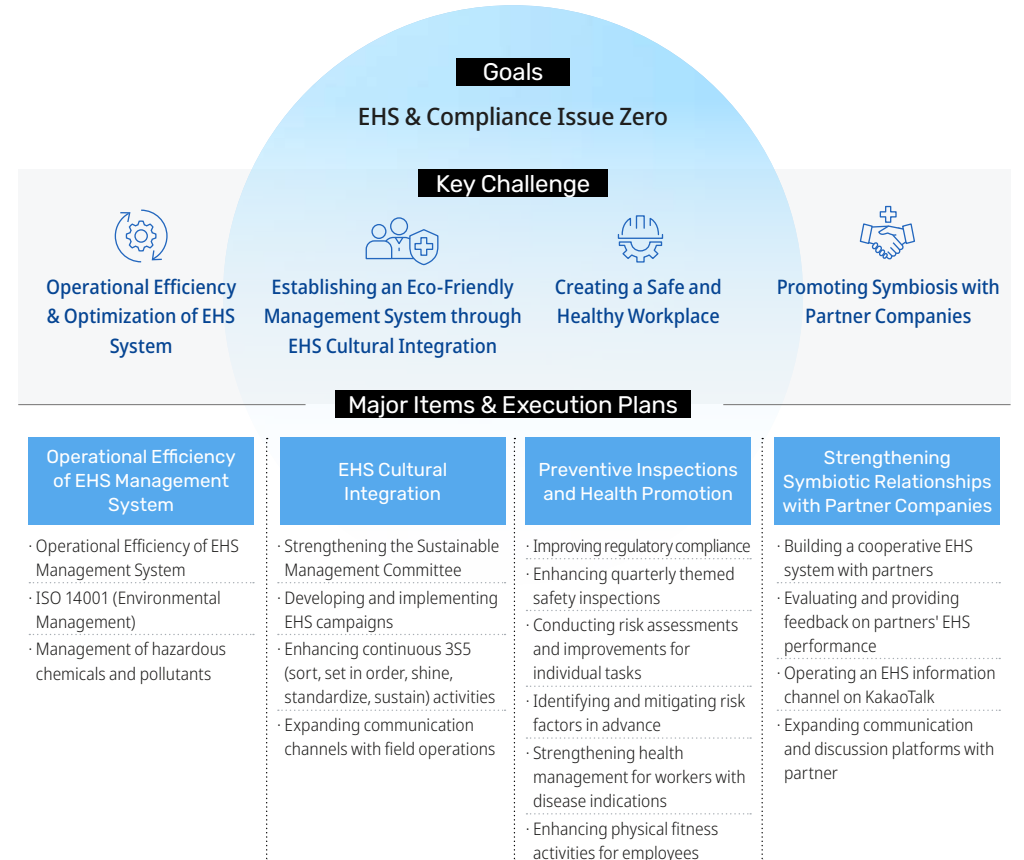
### EHS Management Policy

Aekyung Chemical prioritizes the EHS management policy to ensure the safety of all employees and the community and to promote environmentally friendly production activities. Our goals include identifying and preemptively addressing company-wide EHS issues, creating a safe and happy workplace, and effectively supporting environmental, safety, and health issues.



### Key EHS Focus Areas and Achievement Plans

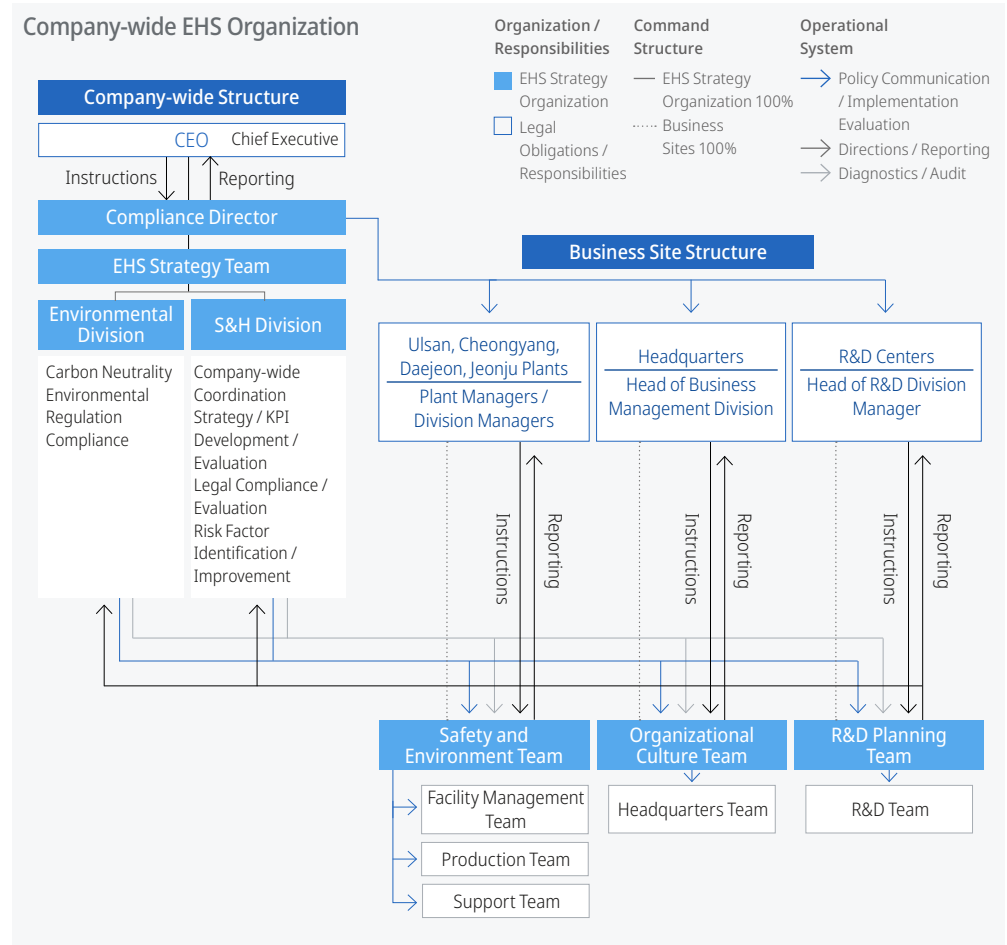
Aekyung Chemical aims to achieve its EHS & Compliance Zero Issue goal through key initiatives such as "Operational Efficiency & Optimization of EHS System," "Establishing an Eco-Friendly Management System through EHS Cultural Integration," "Creating a Safe and Healthy Workplace," and "Promoting Symbiosis with Partner Companies."



# Eco-friendly Strategy Establishment Key Issues for 2023

## EHS Organization

The EHS Strategy Team, a specialized organization focusing on environment, health, and safety, operates directly under the CEO. This team brings key issues to the management meetings and implements policies to achieve zero EHS issues, such as minimizing air pollution, managing chemical substances, and controlling greenhouse gas emissions through a systematic decision-making process.



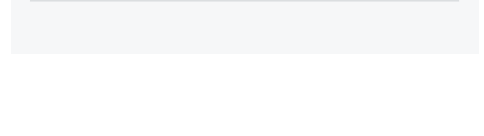
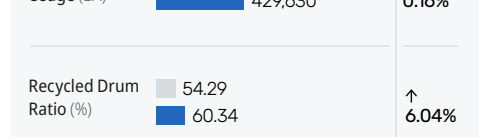
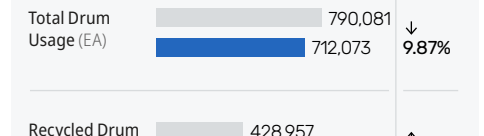
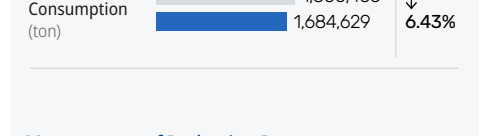
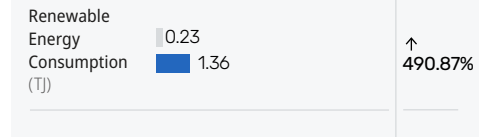
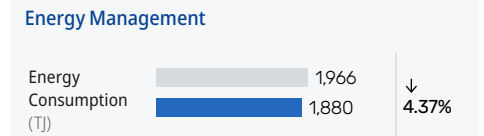
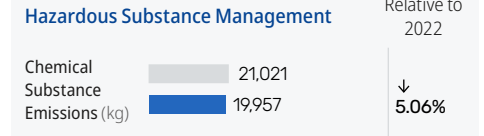
## Environmental Management Goals and Performance

Aekyung Chemical recognizes the importance of corporate roles and responsibilities and implements company-wide environmental management to reduce greenhouse gas emissions and minimize environmental impacts. The EHS Strategy Team presents ESG agendas to the board and management meetings, enabling quick decision-making to proactively address climate change issues, including the management of hazardous substances, energy, and waste. Additionally, by obtaining ISO 14001 certification for plants and factories, Aekyung Chemical demonstrates its commitment to being an environmentally friendly company.



ISO 14001 is a standard for environmental management, a certification from the International Organization for Standardization, that sets policies and objectives to minimize the environmental impact of products or services. It certifies that a company is environmentally friendly through management activities that consider the environment.

## Key Achievements by Area in 2023





# Eco-friendly Strategy Establishment Key Issues for 2023

## Establishment of an Environmental Management Culture Environmental Regulatory Compliance Management System

Aekyung Chemical continuously monitors environmental laws and performs compliance checks at each plant. In accordance with the integrated environmental management system introduced in Korea, we have obtained integrated environmental permits for our Ulsan and Cheongyang 1 and 2 plants. Additionally, we are improving our emission facilities and monitoring environmental pollutants. Our major business sites apply the best available techniques (BAT) to more than 85% of emission and prevention facilities.

## Environmental Regulatory Compliance Verification Process

To minimize potential pollutants from our plants, Aekyung Chemical conducts regular self-measurements of air and water pollutants. We use real-time stack monitoring systems (TMS) to continuously monitor air pollutant concentrations 24/7. During changes in operating conditions, such as process start-ups or emergency shutdowns, we establish and manage procedures to minimize pollutant emissions. For soil contaminants, we implement preventive measures such as replacing containment walls and floors with reinforced concrete materials to prevent leaks from storage tanks. We also conduct soil contamination inspections on-site at least once every two years.

## Environmental Management Campaigns

Aekyung Chemical participates in the Ministry of Environment's "Single-use Zero (ZERO) Challenge," a campaign to reduce single-use items in daily life. We have also launched the company-wide "R U ZERO Campaign," which involves: △ Recycle: Properly sorting and disposing of waste, △ Upcycle: Collecting single-use items for upcycling, and △ ZERO Challenge Day: Designating the 10th of every month as a day to avoid single-use items and join environmental protection activities. Aekyung Chemical will continue to plan and execute various environmental campaigns to contribute to environmental protection efforts.



Reducing Single-Use Items in Daily Life  
"Zero Single-Use Items Challenge"

## Eco-friendly Investments

Aekyung Chemical has developed and implemented various investment plans for eco-friendly activities, such as minimizing environmental pollutants, optimizing energy use, and developing eco-friendly products and technologies. In 2023, we invested in regenerative thermal oxidizers (RTO) to reduce total hydrocarbons and odors and upgraded wastewater treatment plant efficiency. We also actively invest in developing eco-friendly products and building facilities to utilize internal by-products for resource circulation.

### Details of Eco-friendly Investments in 2023

#### Reduction of Environmental Pollutants

Additional installation of regenerative thermal oxidizers (RTO), replacement of filtration equipment at wastewater treatment plants, Installation of gas detectors, etc.



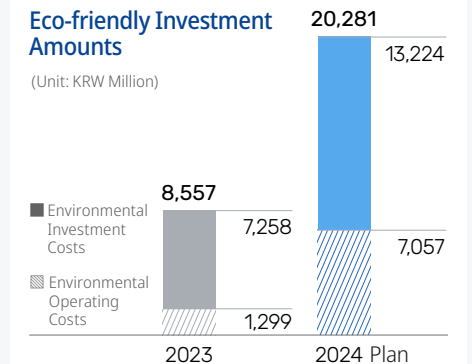
#### Optimization of Energy Use

Introduction of high-efficiency equipment (pumps, motors, etc.), installation of solar power facilities at plants



#### Development of Eco-friendly Technologies/ Products

Investment in certification facilities for virtuous resource circulation and facilities for reusing reaction by-products



**Environmental:**

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Environment

**Establishment of →  
Eco-friendly Strategy**

Response to Climate  
Crisis

Eco-friendly Product  
Development and Solutions

Sustainable Resource  
Recovery System

Waste and Pollutant  
Management

Hazardous Chemical  
Management

Water Resource  
Management

Biodiversity

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# Eco-friendly Strategy Establishment Key Issues for 2023

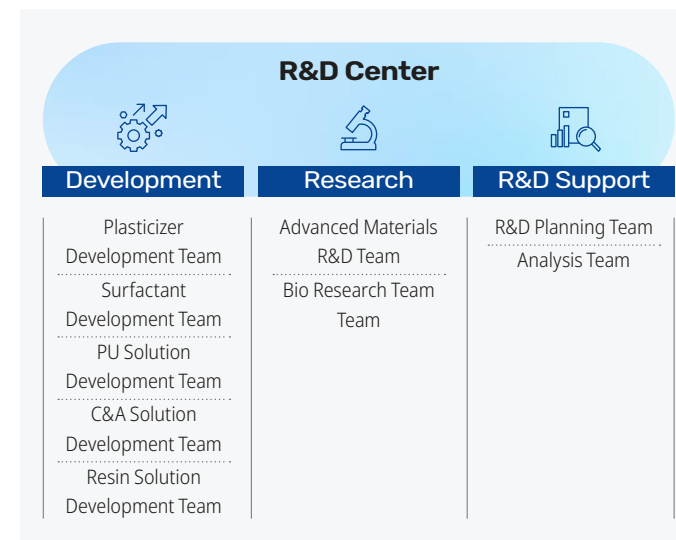
## Eco-friendly Research and Development

### About Our R&D Center

Aekyung Chemical's research center is divided into two main areas: one that develops products used in current industries, such as basic chemical materials, everyday materials, and advanced materials, and another that explores and applies megatrends to research new processes and bio-materials.

In the development area, we work on various chemical products closely related to daily life, such as plasticizers and surfactants, as well as functional resin solutions, coating solutions, adhesive solutions for electronic materials and secondary batteries, material hardeners, and polyester polyols for industrial applications. We strive to enhance product sustainability by making them more eco-friendly and functional in a rapidly changing industrial environment. Additionally, we are expanding product development and technical support for overseas subsidiaries, positioning ourselves as a global research and development center.

In the research area, we focus on new processes and materials, such as hydrogenation and chlorination technologies, to advance existing products and secure core technologies for new business opportunities. In January 2024, we reorganized our teams to better align with our research and development activities, notably subdividing the R&D Support Team into the R&D Planning Team and the Analysis Team. The R&D Planning Team enhances our research capabilities by identifying new eco-friendly products and analyzing megatrends, while the Analysis Team develops analytical methods tailored to new processes and materials to support eco-friendly product development.



### R&D Areas and Development Content

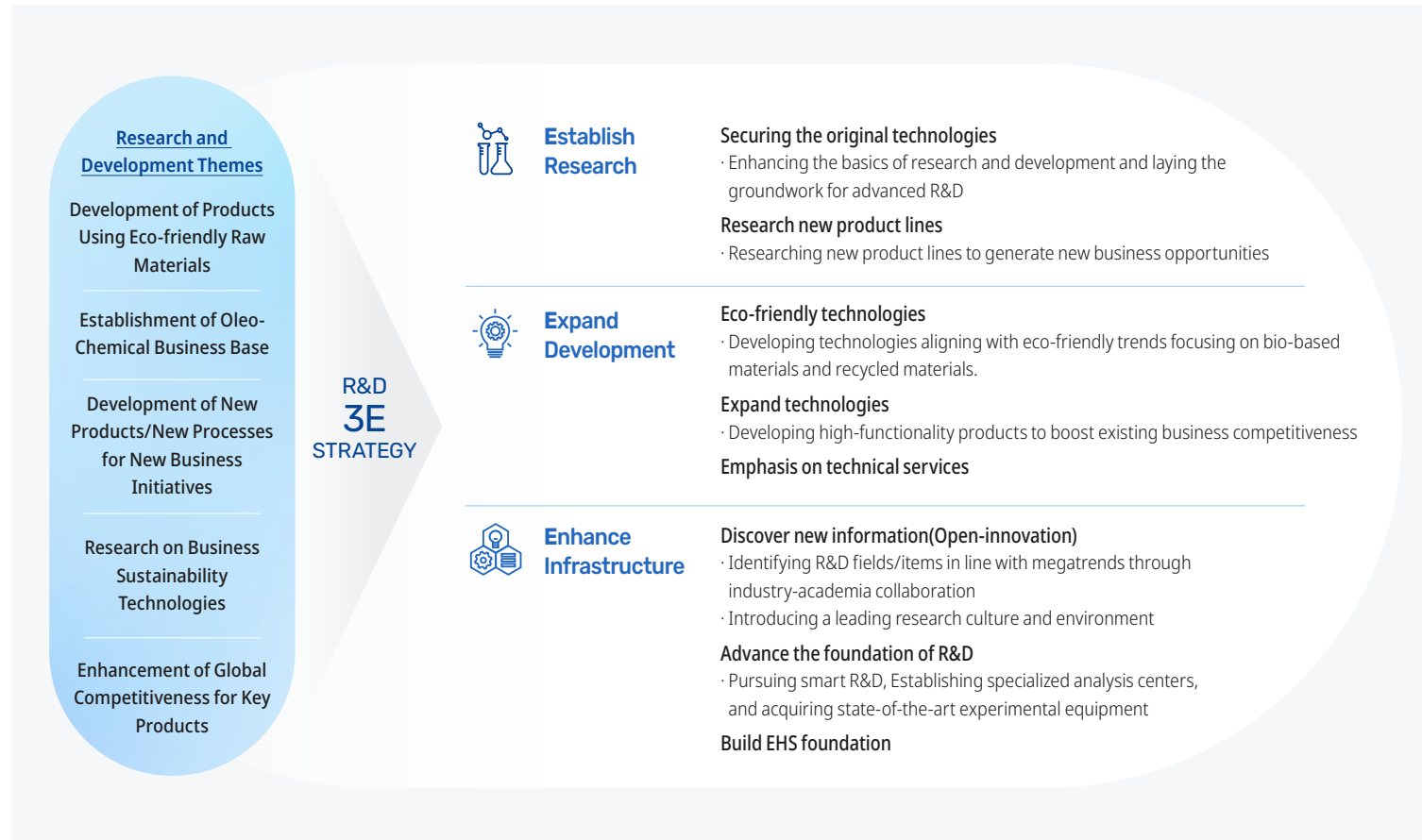
Category	Types/Areas	Research and Development Content	Eco-friendly R&D
Plasticizers	Plasticizers, Ester Lubricant Base Oils	Researching plasticizers used in everyday PVC materials such as wallpaper, automotive, and leather, as well as ester compounds for lubricants to reduce friction in machine parts.	Recyclable and bio-based new plasticizers and lubricant base oils
Interface Materials	Surfactants, Polymer Materials	Developing a variety of ionic surfactants, including anionic surfactants for industrial and household cleaning and cationic surfactants with anti-static properties, as well as polymer-based cosmetic materials.	Bio-derived surfactants and enzyme-catalyzed cosmetic materials.
PU Solutions	Polyols, Systems, Material Hardeners	Developing polyester polyols for polyurethane insulation used in sandwich panels and LNG ships, and polyisocyanates used as hardeners for automotive refinish coatings and woodworking urethane paints.	Bio/recycled raw material-based polyols and bio-based hardeners using eco-friendly processes.
C&A Solutions	Acrylic/Alkyd/Polyurethane Resins, Water-based Resins, UV Resins, Adhesives	Providing materials and solutions tailored to various applications, including automotive, electronic materials, and coatings, utilizing diverse polymer synthesis technologies. Emphasis on high-value electronic materials adhesives for displays and semiconductor processes.	Bio-based alkyd resins, water-based resins, solvent-free adhesives, and room-temperature curing resins.
Resin Solutions	Unsaturated Polyester/Vinyl Ester Resins, Prepreg, Carbon SMC	Developing unsaturated polyester and vinyl ester resins used in semiconductor fields, construction materials, automotive, and shipbuilding. Researching lightweight, high-performance resins for various industrial applications and environmentally friendly resins such as low-SM and SM free resins.	Recycled plastic-based unsaturated polyester resins.
Advanced Materials	Chlorination/Hydrogenation Technology, Resin Recycling	Focusing on acquiring core technologies through the research of new products to enhance existing developments and explore new business opportunities.	Developing new products using hydrogenation and chlorination technologies and upcycling cured resins.
Bio	Biofuels, White Biotechnology	Conducting research on eco-friendly bio-materials, a megatrend, and developing new processes and collaborations for future growth in the bio field.	Biofuels, bio-platform compounds, and bio-chemical materials.

# Eco-friendly Strategy Establishment Key Issues for 2023

## Mid- to Long-Term R&D Strategy

Globally, policies for carbon neutrality and a circular economy are emerging to combat climate change, and consumer interest and demand for eco-friendly products are increasing. In line with the company's environmental strategy, Aekyung Chemical has established a mid-to-long-term R&D strategy. This strategy is based on five research and development themes, laying the foundation for transforming into an eco-friendly company and continuously pursuing research and development.

### R&D Themes and Mid- to Long-Term R&D Strategy



▶ Media

### Expansion of Eco-friendly R&D through Corporate Agreements

#### Aekyung Chemical and NOX Collaborate to Lead Sustainability with Carbon-Reduction Eco-friendly Products

Aekyung Chemical has agreed to supply eco-friendly plasticizers made from recycled materials to NOX Corp., a global luxury vinyl tile (LVT) flooring manufacturer. The agreement was signed on July 11 at NOX's headquarters in Seocho-gu, Seoul. Under the agreement, Aekyung Chemical will supply the eco-friendly plasticizers to NOX, who will be the first in Korea to use these in luxury vinyl tile flooring products. These products will then be exported to over 50 countries worldwide through NOX's global distribution network.

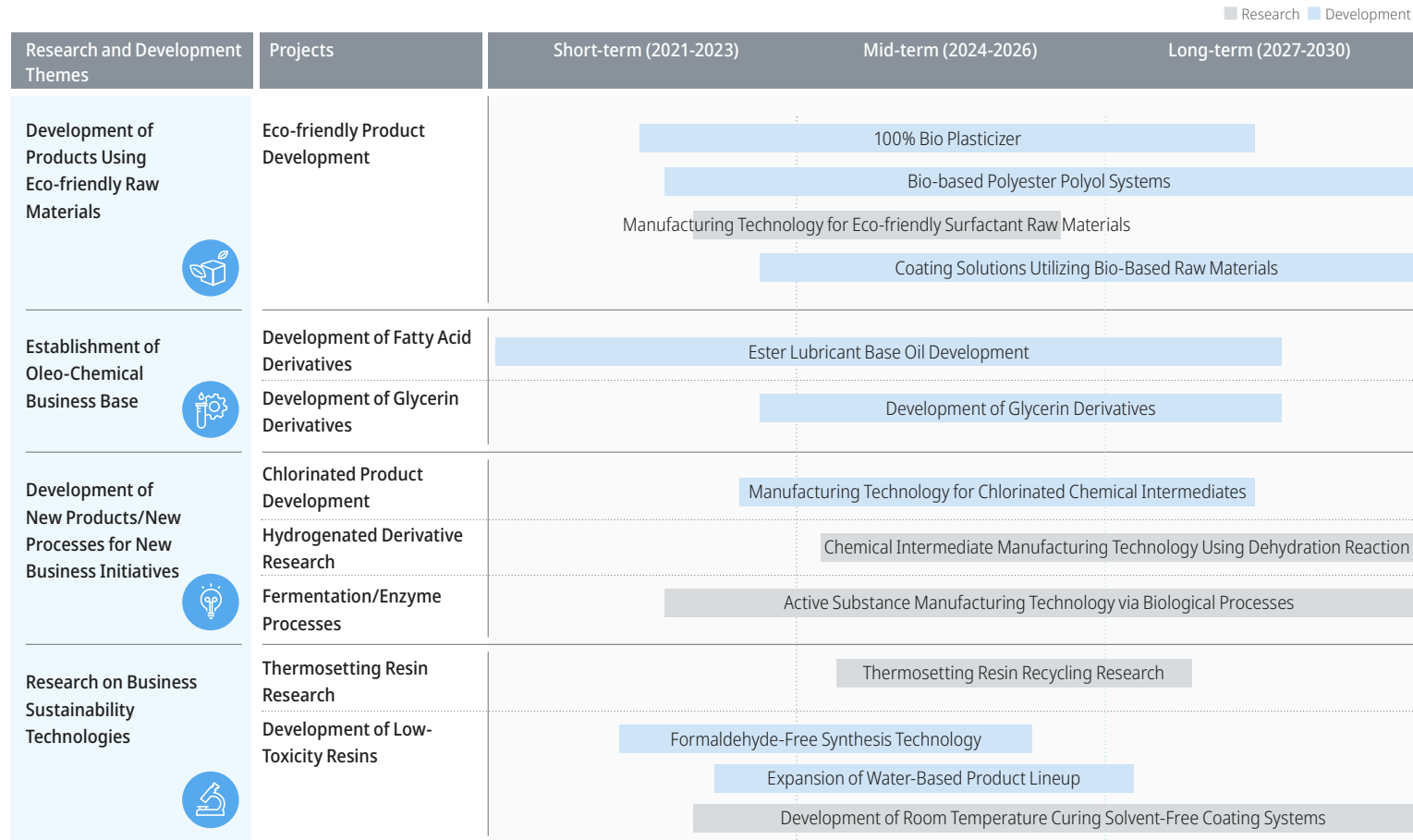


\* Source: NewsWire, July 12, 2023

# Eco-friendly Strategy Establishment Key Issues for 2023

## Mid- to Long-Term R&D Strategy: Eco-friendly Research and Development Roadmap

Aekyung Chemical is establishing a sustainable business foundation by enhancing the global competitiveness of its key products and executing eco-friendly research and development themes to prepare for the future. Additionally, through open innovation with industry-academia-research collaborations, we aim to broaden and internalize eco-friendly technologies over the long term.



## 2023 Eco-friendly Technology Development Status

Aekyung Chemical's R&D process is divided into basic research, development, commercialization (pilot certification), and productization (certification). The eco-friendly items for each research and development stage in 2023 are as follows:

Stage	Eco-friendly Items
<b>Basic Research</b> 	Eco-friendly Surfactant Raw Materials Manufacturing Active Substances via Biological Processes
<b>R&amp;D</b> 	100% Bio-based Plasticizers Plant-based Fatty Acid Lubricant Base Oils Bio-based Polyol Systems
<b>Commercialization (Pilot Certification)</b> 	UPR/VER Resins Complying with SM Regulations
<b>Productization (Certification)</b> 	Solvent-Free Adhesives Water-based Resin Products

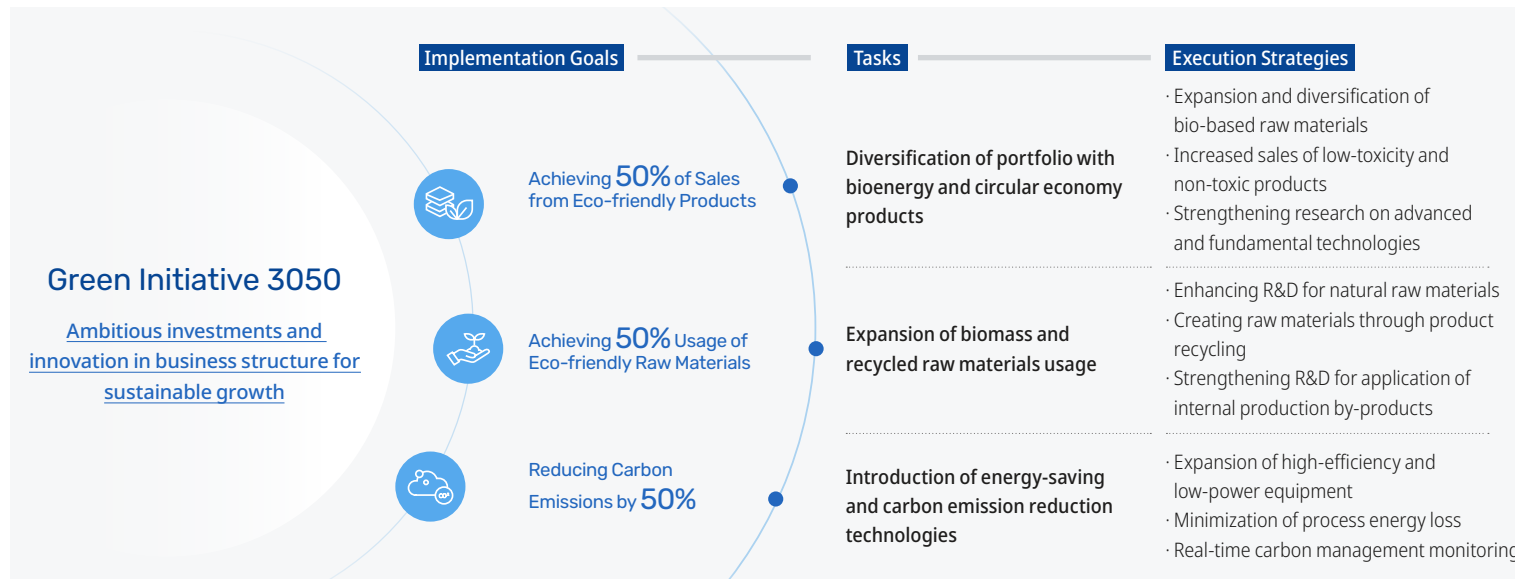
# Response to Climate Crisis Key Issues for 2023

## Eco-friendly Policy Goals

Under the ESG management policy, Aekyung Chemical is committed to achieving the goals set by its "Green Initiative 3050."

This initiative aims to achieve 50% of sales from eco-friendly products, 50% usage of eco-friendly raw materials, and a 50% reduction in carbon emissions by 2030, compared to 2021 levels. We systematically set annual targets and manage performance to reach these goals. Additionally, we have established Green Initiative 3050 as a key performance indicator (KPI) to increase employee participation and awareness, evaluating performance annually.

To achieve 50% of sales from eco-friendly products, we are diversifying our product portfolio with recycled, biodegradable, and low-toxicity materials. We are also expanding our eco-friendly product development and distribution strategies through collaborations with various companies. To achieve 50% usage of eco-friendly raw materials, we are increasing the use of biomass and recycled materials. To reduce carbon emissions, we are securing energy-saving technologies and increasing the use of renewable energy in our production facilities.



## Mid- to Long-Term Execution Strategy

	2021	2023	2025	2028	2030
<b>Products</b> (as a percentage of total sales)	<b>32%</b> Biodiesel, bio-heavy oil, glycerin, plant-based surfactants	<b>34%</b> Circular economy plasticizers, plant-based controlled-release coating solutions	<b>38%</b> Expansion of low-toxicity products (plasticizers, synthetic resins, surfactants)	<b>45%</b> Biofuels for ships, circular economy products	<b>50%</b>
<b>Raw Materials</b> (as a percentage of total input)	<b>28%</b> Raw materials for biofuels, glycerin, lauryl alcohol	<b>31%</b> Expansion of the use of waste PET chips	<b>34%</b> Natural ingredient R&D and expanded application of internal production byproducts	<b>43%</b> Expanded use of bio-based materials for ships and recycled materials	<b>50%</b>
<b>Carbon Emissions (tCO<sub>2</sub>-eq/ton of production)</b>	<b>0.250</b> Basic operations per business site	<b>0.245</b> Reuse of waste heat energy, solar power generation, adoption of high-efficiency equipment	<b>0.209</b> Measuring energy efficiency of current manufacturing facilities, setting scenarios for the emissions trading system	<b>0.159</b> Target setting for productivity per unit Introduction of an optimized carbon management system	<b>0.125</b>

# Response to Climate Crisis Key Issues for 2023

## Greenhouse Gas Management System Minimization of Greenhouse Gases

Aekyung Chemical Cheongyang Plant participated in the Carbon Neutral Consulting for Emissions Trading Scheme Companies conducted by the Korea Environment Corporation in 2023. Energy audits were conducted on boiler facilities and air compressors at the plant, and energy and carbon emission reduction plans were established. As a result of this project, the Cheongyang Plant is considering replacing its existing boilers with high-efficiency boilers and switching to inverter-type air compressors. Additionally, the Cheongyang Plant, which previously produced nitrogen in-house through nitrogen production facilities, has switched to purchasing all nitrogen externally due to higher carbon reduction benefits associated with external procurement (economies of scale).

At the Ulsan Plant, Aekyung Chemical optimized the operating conditions of the Regenerative Thermal Oxidizer (RTO), a facility for preventing air pollution. This optimization increased the efficiency of air pollutant treatment while reducing carbon emissions. Previously, LNG was used to maintain and control the combustion chamber temperature, but replacing LNG with low-pressure steam reduced LNG consumption while maintaining pollutant treatment efficiency. This improvement is expected to reduce annual carbon emissions by approximately 500 tons.



RTO Equipment in Ulsan Plant

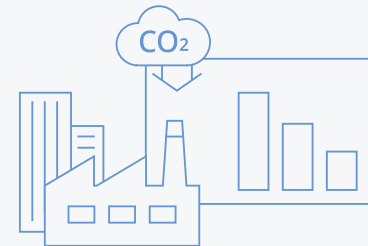
## Carbon Reduction through Process Improvement

During product monitoring, Aekyung Chemical has continuously improved processes by reducing reaction times and optimizing temperature conditions to save energy. Activities include tracking appropriate steam usage and redistributing idle steam for process use.

### Key Indicators

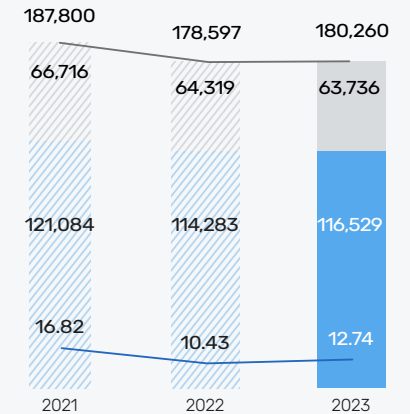
#### 2023 Company-wide Carbon Emissions

180,260 tCO<sub>2</sub>-eq



### Greenhouse Gas

Greenhouse Gas Emissions (Unit: tCO<sub>2</sub>-eq)  
■ directly ■ Indirect — Total  
— Greenhouse Gas Intensity  
 (Unit: tCO<sub>2</sub>-eq/Revenue  
 (Unit: KRW 100 million, Separate Basis))



※ Reference: The emissions by greenhouse gas type and the total emissions differ from the sum of emissions by business site.  
 (This is due to rounding the emissions at the site level and then aggregating them at the company level)

# Response to Climate Crisis Key Issues for 2023

## Energy Management System Energy Reduction Activities

Aekyung Chemical analyzes energy consumption status and identifies energy-saving practices within the plant to research ways to reduce energy costs. Additionally, we monitor and analyze energy usage to improve inefficient areas. To manage energy used in the manufacturing process efficiently, we identify monthly energy consumption patterns. In the Ulsan plant, we previously sold the heat generated from processes externally, but we have switched to using it entirely internally, significantly reducing the boiler's LNG consumption. The plant is also replacing outdated insulation in steam pipes to reduce heat loss during transportation, which in turn reduces the LNG consumption supplied as a heat source for alternative energy as heat loss is minimized. Due to the nature of continuous processes, the plant's rotating equipment, such as motors and fans, operates 24/7. therefore, reducing the energy usage of these facilities is crucial. To achieve this, Aekyung Chemical is replacing pumps and motors in rotating equipment with premium high-efficiency electric machines to save energy.

## Expansion of Renewable Energy Use

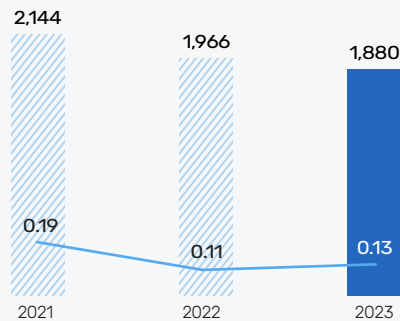
To reduce emissions from electricity used in our business sites (Scope 2), we generate and use electricity through solar and wind power. Previously, only some plants, such as the Jeonju Plant and Cheongyang 2 Plant, operated solar power facilities. However, since 2023, we have expanded solar power facilities to the Ulsan Plant, Cheongyang 1 Plant, and the R&D center.

### Key Indicators

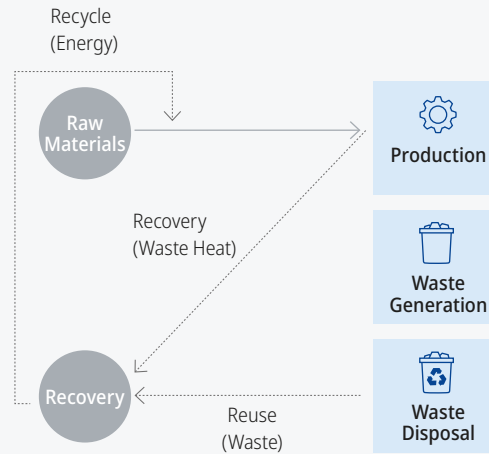
LNG Reduction through Maximized Use of Waste Heat  
Reduction through Maximized Use of Waste Heat

1,363,079 Nm<sup>3</sup>

**Energy** ■ Energy Consumption (Unit: TJ)  
— Energy Intensity (Unit: KRW 100 million, Separate Basis)



### Aekyung Chemical Internal Energy Circulation Model



Ulsan Plant P-7 Insulation Reinforced



Ulsan Plant P-2 Motor Replaced



Solar power facility at Ulsan Plant



Solar power facility at Cheongyang Plant



Solar power facility at R&D Center

# Eco-friendly Product Development and Solutions Key Issues for 2023

## Eco-friendly Products

Aekyung Chemical is expanding its portfolio of eco-friendly products to establish a sustainable management system. We have set internal criteria and quantitative targets for eco-friendly products to systematically manage their development and sales to increase the proportion of eco-friendly products.

### Use of Eco-friendly Raw Materials

Biomass and recycled plastic raw materials have lower carbon emissions compared to petroleum-based raw materials. Aekyung Chemical produces various eco-friendly raw material products, such as lubricating oil using biomass raw materials, plant-derived surfactants, biofuels, and plasticizers made from recycled plastic raw materials.

### Contribution to Carbon Reduction for Customers and Ourselves

Leveraging the characteristics of our B2B business, Aekyung Chemical provides solutions that contribute to carbon reduction for both our customers and ourselves. Low-temperature curing and UV-curing resins reduce carbon emissions in various manufacturing processes. Additionally, insulation materials used in zero-energy buildings and passive houses contribute to overall carbon reduction in the construction industry.

### Reduction of Harmful and Toxic Substances

With the strengthening of global safety and health standards, Aekyung Chemical regulates its products to minimize harmful and toxic substances. We develop technologies to respond to these tightening regulations, ensuring our products' sustainability. We have established an eco-friendly premium lineup by significantly reducing the residual amounts of isocyanates, which have inhalation toxicity, and 1,4-dioxane, a carcinogen, in our curing agents and surfactants.

### Replacement and Non-use of Harmful and Toxic Substances

The incorrect use and poor management of harmful and toxic substances can adversely affect the environment, increasing the demand for products using alternative substances. Aekyung Chemical has developed water-based products that replace organic solvents, which are strictly regulated in the automotive and coatings sectors, as well as solvent-free adhesive types. These products do not use organic solvents, resulting in emissions of volatile organic compounds (VOCs) below standard levels, thus being recognized for their eco-friendliness.

## Key Indicators

Sales of Eco-friendly  
Products in 2023

**258** thousand tons / **KRW3,844** billion



Participation in the Ministry of Trade, Industry, and  
Energy's "Eco-friendly Biofuel Activation Alliance"

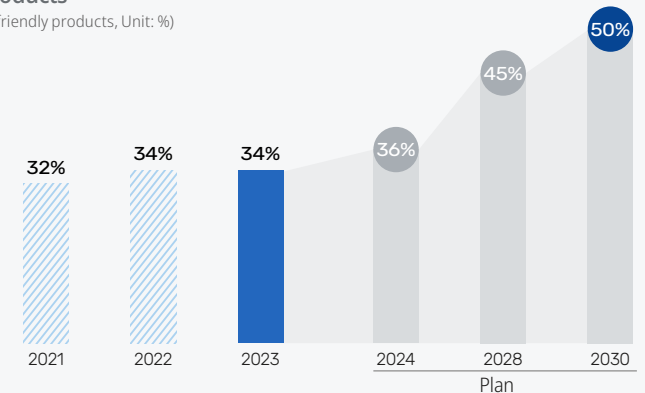
Marine Sector (Marine Bio-Diesel, Marine Bio Heavy Oil)

Certifications: GRS, USDA, ISCC EU

Resource-circulating plasticizers using recycled plastics,  
slow-release fertilizer coating materials using plant oils,  
biodiesel using recovered oils

## Eco-friendly Products

(Sales volume of eco-friendly products, Unit: %)



# Eco-friendly Product Development and Solutions Key Issues for 2023

## Eco-friendly Raw Materials

Aekyung Chemical aims to gradually increase the proportion of eco-friendly raw materials used in its products. Our eco-friendly raw materials include biomass-based and recycled plastic (petrochemical) raw materials.

### Biomass-based Raw Materials

While petrochemical raw materials generate significant carbon emissions during manufacturing, biomass is recognized as a sustainable resource for carbon neutrality because it uses atmospheric carbon through processes like photosynthesis during its growth. Aekyung Chemical uses biomass-based raw materials such as animal and vegetable fats for biofuels, lauryl alcohol for surfactant manufacturing, and vegetable oils.

### Recycled Plastic (Petrochemical) Raw Materials

Plastic waste generated from various industries is recycled both physically and chemically and is reintroduced into the production process. Aekyung Chemical uses recycled raw materials made from pyrolyzed plastic waste in its product manufacturing and is gradually increasing their proportion.

### Internal Recycling of Process By-products

Aekyung Chemical has developed technologies to reuse by-products generated during manufacturing processes, applying them to its product production. Various by-products from biodiesel production are applied to bio heavy oil or refined into glycerin, a raw material for cosmetics. Unlike other companies, Aekyung Chemical also uses low-purity by-products generated from the process of increasing the purity of phthalic anhydride (PA) in the production of polyester polyol.

## Eco-friendly Raw Materials Used in Aekyung Chemical Products

Biomass		Recycled Plastic (Petrochemical)	Internal Recycling of Process By-products
<b>Fatty Acids</b> · Lubricating oil base · Surfactants	<b>Fatty Oils</b> · Coating solutions · Bio heavy oil	<b>Recycled Petrochemical</b> · Plasticizers · Unsaturated polyester · Coating solutions	<b>PA internal by-products</b> · Polyester polyol <hr/> <b>Biodiesel Internal By-products</b> · Bio heavy oil · Refined glycerin
<b>Palm Oil/Soybean Oil</b> · Biodiesel	<b>Fatty Alcohols</b> · Surfactants		

### Key Indicators

Usage of Eco-friendly Raw Materials in 2023 **232 thousand tons**

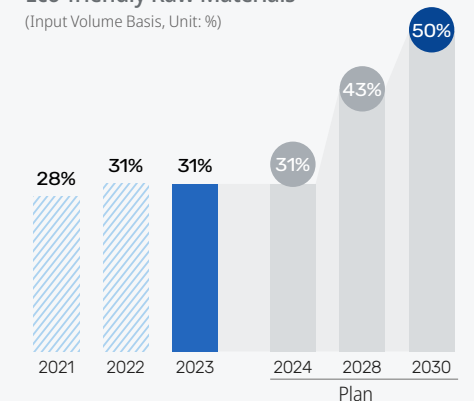
Use of Recycled Plastic-based Raw Materials **GRS, GR Certification**

Increase in consumption of waste PET compared to 2022 **68 times**

Usage of Biomass Raw Materials for Biofuels **192 thousand tons**

### Eco-friendly Raw Materials

(Input Volume Basis, Unit: %)



# Eco-friendly Product Development and Solutions Key Issues for 2023

## Eco-friendly Certification

With the increasing demand for Environmental, Social, and Governance (ESG) management, more companies are requiring eco-friendly certifications as part of their business terms. Aekyung Chemical strives to secure credibility for its products and accelerate its market entry by obtaining various eco-friendly certifications.

### Eco-friendly Product Certifications in 2023

In 2023, Aekyung Chemical acquired multiple eco-friendly certifications for its products.

The plant oil-based solvent-free alkyd resin developed for slow-release fertilizers recorded a biocarbon content of 57%, far exceeding the United States Department of Agriculture (USDA) BioPreferred certification requirement of 22%.

This alkyd resin serves as a coating agent for fertilizers, controlling the release rate of fertilizer components. The plasticizer made from recycled plastic waste, which obtained ISCC PLUS certification in 2022, also received the international eco-friendly certification "Global Recycled Standard (GRS)" in 2023. This recycled PET-based plasticizer is used in the luxury vinyl tile flooring material manufactured and sold by Noksoo, a flooring specialist company, and production volumes are expected to increase.

Additionally, Aekyung Chemical obtained the ISCC EU certification for biofuels, recognizing the environmental impact and sustainability of the entire process from sourcing bio-based raw materials to manufacturing and sales. This certification establishes the foundation for exporting biodiesel to the European market, which has stringent eco-friendly standards and regulations.



USDA Certification (March 2023)



GRS Certification (September 2023)



ISCC EU Certification (November 2023)

### Eco-friendly Raw Material Certifications in 2023

Aekyung Chemical uses certified eco-friendly raw materials in its products.

When using plastic waste as raw material, only certified recycled PET (rPET) is used to produce eco-friendly products. Furthermore, Aekyung Chemical participates in the RSPO system, an international certification for sustainable palm oil, committing to environmental protection and sustainability principles across all stages of the palm oil industry. We have obtained RSPO certification for surfactants and glycerin, which are key raw materials in household chemical products.



GRS Certificate for Recycled PET Material



RSPO Certification

**Environmental:**

Together with  
Environment

Establishment of  
Eco-friendly Strategy  
Response to Climate  
Crisis

**Eco-friendly Product →  
Development and Solutions**

Sustainable Resource  
Recovery System

Waste and Pollutant  
Management

Hazardous Chemical  
Management

Water Resource  
Management

Biodiversity

**Social:**

Happy Society

**Governance:**

Equitable  
Governance

Appendix



# Eco-friendly Product Development and Solutions Key Issues for 2023

## Green Portfolio

### Development of Products to Address Climate Crisis

As global warming and extreme weather accelerate, international concern about the climate crisis is growing. South Korea has legislated a reduction of over 35% in greenhouse gas emissions by 2030, based on 2018 levels, becoming the 14th country to commit to carbon neutrality and the reduction of greenhouse gases. Aekyung Chemical is contributing to global carbon reduction efforts by developing various products that help address the climate crisis.

#### Eco-friendly Refrigerants and Compatible Refrigeration Oils

In collaboration with GS Caltex, Aekyung Chemical has successfully localized refrigeration oils for home appliances that use new eco-friendly refrigerants. As global refrigerant regulations increasingly push for refrigerants with low global warming potential (GWP), the role of compatible base oils has become crucial. Aekyung Chemical developed a new eco-friendly refrigerant (HFC-32) with a GWP 65% lower than existing refrigerants and a base oil that has excellent miscibility with it. The refrigeration oil localized by Aekyung Chemical and GS Caltex has been recognized for its quality and is evaluated as a next-generation refrigeration oil that meets global refrigerant regulations. Building on this, Aekyung Chemical plans to expand its business scope in eco-friendly base oils.



Researchers evaluating refrigerant oil

#### Eco-friendly Rebar Substitute: Glass Fiber Reinforced Plastic Resin

The construction industry's demand for carbon neutrality is rising, with materials like cement and steel included in the EU Carbon Border Adjustment Mechanism. Aekyung Chemical developed synthetic resin products, essential raw materials for glass fiber reinforced plastic (GFRP), an eco-friendly rebar substitute, contributing to carbon reduction in building materials. This eco-friendly rebar substitute reduces carbon emissions by over 73%, increases strength more than twice, and reduces weight to one-quarter compared to traditional materials, making it a highly favored material. Through collaboration with KCMT and EcoPolymer, with whom we signed a MOU in October 2023, Aekyung Chemical aims to improve the performance and quality of synthetic resins and lead the global market. Additionally, in the medium to long term, we plan to enhance the eco-friendliness of GFRP synthetic resin by incorporating recycled plastic raw materials.



Eco-friendly rebar substitute made with Aekyung Chemical resin

#### Application of Eco-friendly Blowing Agents in Semi-noncombustible Polyurethane Panels

Strengthened construction laws and regulations have led to stricter semi-noncombustible testing standards. In July 2023, Aekyung Chemical passed all four quality recognition tests for semi-noncombustible composite materials, proving the performance and stability of our products. This achievement is particularly significant as it marks the first domestic application of cyclopentane as a blowing agent. Cyclopentane is considered an eco-friendly product with a GWP about 85% lower than the commonly used HCFC-141b blowing agent.

In collaboration with SY Panel, Aekyung Chemical developed polyurethane panels with excellent insulation performance and enhanced fire safety over three years, incorporating eco-friendly blowing agents to produce reliable products for users.

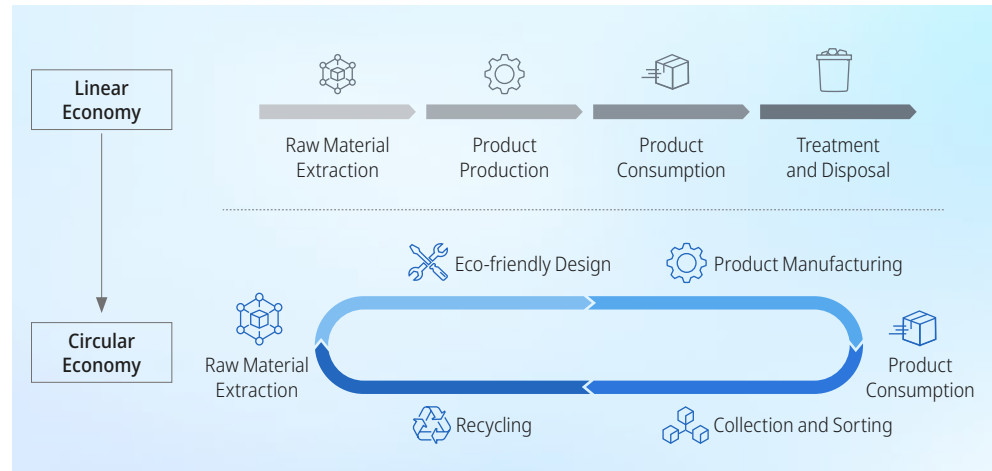


Testing scenes of fire safety performance of Aekyung Chemical's semi-noncombustible insulation material for building exterior finishing systems

# Sustainable Resource Recovery System Key Issues for 2023

## Resource Circulation Activities

Resource circulation refers to activities aimed at reducing unnecessary waste generated from economic activities such as production and consumption. This is achieved by recycling waste instead of discarding it, thus saving resources and reducing carbon emissions. The circular economy is an eco-friendly economic model that pursues sustainability through resource circulation and is being adopted by many companies as a business model.



## Physical Recycling vs. Chemical Recycling

Physical recycling involves processing recyclable plastics through sorting, washing, crushing, and melting to create new plastics. However, physical recycling has limitations, as it is difficult to sort waste like plastic films or composite materials, making active recycling challenging.

In contrast, chemical recycling decomposes waste plastics chemically, returning them to their raw material state. This method reduces the sorting process for waste and allows the use of contaminated waste.



## Development of Eco-friendly Products with Resource Circulation

Aekyung Chemical is committed to developing recycled plastic products that align with megatrends and aims to expand the scope of plastic recycling to practice a circular economy.

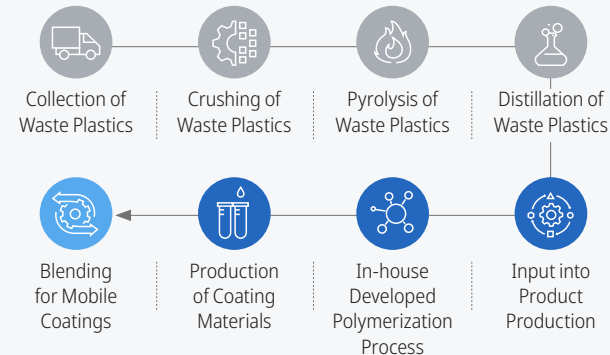
## Production of Recycled Plastic (Resource Circulation) Products

In 2022, Aekyung Chemical became the first in Korea to develop a plasticizer made from recycled PET, obtaining ISCC PLUS certification in 2022 and GRS certification in 2023, thereby enhancing the credibility of the product. The developed resource circulation plasticizer is applied to flooring materials, and production is expanding to meet market demand. In 2023, the recycling scope extended to synthetic resins following the plasticizer. Aekyung Chemical has developed a coating solution using chemically recycled Methyl Methacrylate (MMA) for mobile coatings.

MMA is used in various industries, including automotive, electronics, IT devices, and artificial marble. By using MMA extracted from pyrolyzed artificial marble that would otherwise be landfilled or discarded, Aekyung Chemical developed a coating solution identical to those using conventional raw materials.

The recycled MMA used by Aekyung Chemical has obtained an Excellent Recycling Product Certificate from the Ministry of Trade, Industry, and Energy, certifying its excellence under the Carbon Neutrality and Green Growth Basic Act regulations for addressing the climate crisis.

## Production Process of Resource Circulation Products



# Sustainable Resource Recovery System Key Issues for 2023

## Development of Resource Circulation Process for Products

Aekyung Chemical reduces waste generation and practices economic production by incorporating by-products from internal processes into product manufacturing.

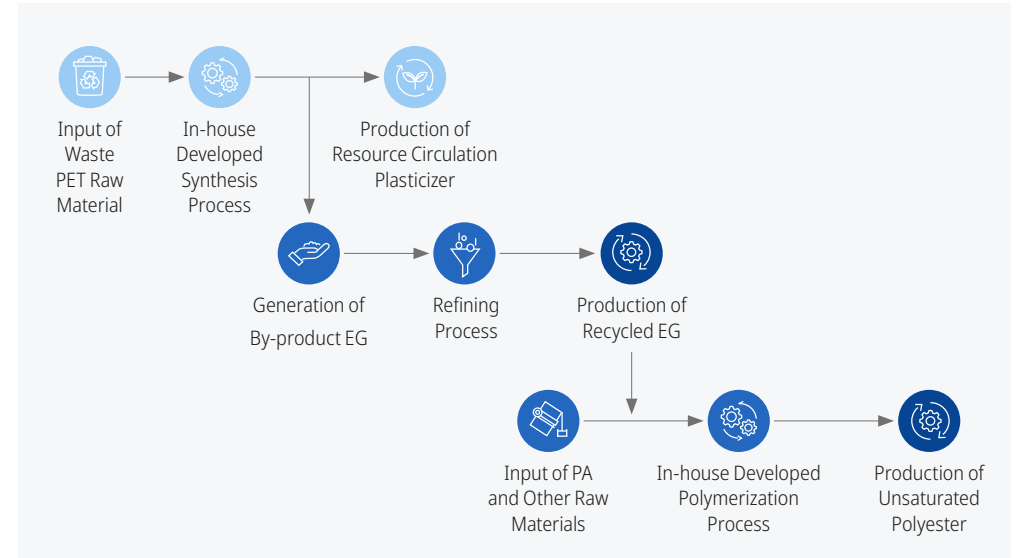
## Development of By-product Recycling Processes

Entering the biofuel business, Aekyung Chemical refined glycerin, a by-product of biodiesel production, into a marketable product. Additionally, we recover by-products like pitch and fatty acids from processes to produce another biofuel, bio heavy oil, through reactions.

Aekyung Chemical continues to develop recycling processes for reaction by-products. In 2022, following the production of resource circulation plasticizers, we developed a technology to refine and recycle EG (ethylene glycol) by-products instead of discarding them, verifying the feasibility of commercializing recycled EG. In 2023, we proceeded with facility design and construction based on reaction processes and conditions after passing through the internal investment review committee. In January 2024, we commenced trial operations of the completed facilities and began pilot production of recycled EG.

As a result, it is expected that we will be able to produce 3,700 tons of refined recycled EG annually for our products. For pilot-produced EG, we plan to standardize its physical properties further and apply it to unsaturated polyester products while conducting evaluations with partner companies to accelerate ESG management.

## Process for Applying Recycled EG



## Timeline for Applying Recycled EG



View of the recycled EG refinery at the Ulsan Plant

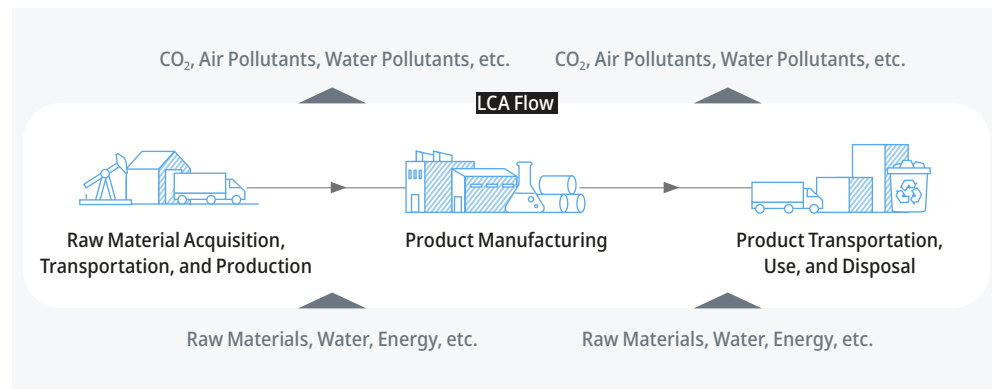
# Sustainable Resource Recovery System Key Issues for 2023

## LCA Goals and Achievements

### Implementation of Life Cycle Assessment (LCA) for Products

In the global market, the importance of life cycle assessment (LCA) perspectives, such as the EU Carbon Border Adjustment Mechanism (CBAM) and Scope 3 emissions, is increasing. As more customers demand products with low resource consumption and minimal environmental pollutants, managing products from an LCA perspective has become essential.

In response, Aekyung Chemical quantitatively lists the resources, energy, and pollutants involved throughout the product lifecycle and evaluates their environmental impact. Our aim is to reduce environmental pollution from production activities while also understanding the environmental impact at the stages of raw material acquisition, transportation, and processing to minimize pollutants. In 2023, we conducted an LCA for plasticizer products and are preparing to conduct LCAs for synthetic resins, surfactants, and bioenergy products.



### What is LCA?

Life Cycle Assessment (LCA) is a technique that quantifies the environmental burdens resulting from the inputs and outputs throughout a product or system's entire lifecycle.

\* From raw material extraction/production, product manufacturing, transportation, product use, to final disposal, including the emissions of environmental pollutants and greenhouse gases

## Eco-friendly Purchasing

Aekyung Chemical has established guidelines for eco-friendly green purchasing and management to prioritize the procurement of eco-friendly certified raw materials and goods used in manufacturing activities. Our goal is to minimize environmental impacts, make responsible purchasing decisions, and enhance supply chain value through sustainability.

We have instituted a "Green Purchasing Guideline" to conserve the environment and natural resources. This strategy considers eco-friendliness throughout research, production, sales, and logistics, reinforcing our environmental management practices. The Green Purchasing Guideline targets categories such as civil engineering, construction, electricity, chemicals, equipment, MRO (Maintenance, Repair, and Operations items like office supplies and consumables), and household items that can be replaced with eco-friendly products, as well as raw and subsidiary materials used in manufacturing activities. Furthermore, Aekyung Chemical's purchasing department continuously monitors green purchasing performance to lead green purchasing activities aimed at sustainable environmental development.

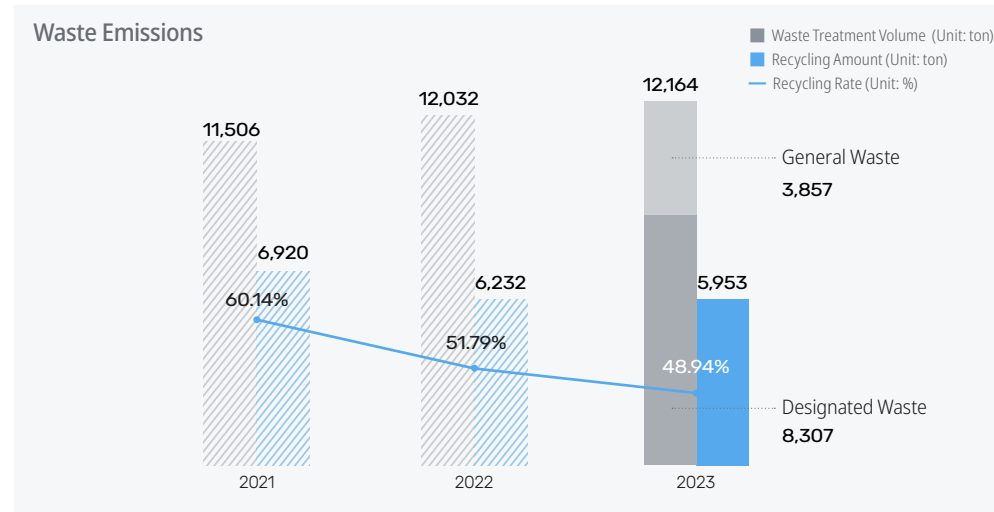


# Waste and Pollutant Management

## Waste Management

### Waste Management System

To minimize waste generation, Aekyung Chemical establishes and manages annual and plant-specific waste reduction targets. We identify major processes that generate waste and devise reduction strategies, checking waste generation amounts at least once a month to promote reduction. Specifically, we store designated waste and general waste in separate areas to prevent the transfer of hazardous components between waste types. Designated waste is analyzed for hazardous components and managed as data, with precautions (hazard information materials) documented and communicated to minimize contamination when waste is transported externally. Additionally, when outsourcing waste disposal, we prioritize companies that can recycle rather than landfill or incinerate to reduce environmental impact. All waste from Aekyung Chemical is reported and managed through the Ministry of Environment's "Allbaro" system.



### Waste Reduction Initiatives

Aekyung Chemical reduces fuel use and designated waste generation by incinerating waste acetone in our in-house incinerator. Since 2021, we have continuously reduced waste generation through improvements in waste treatment processes and increased efficiency of dehydrators (reducing sludge generation).

### Recycling Activities for Raw and Subsidiary Materials

Among the products produced by Aekyung Chemical, such as plasticizers, polyester polyol, and PU systems, we use "recycled drums" for customer deliveries. To reduce waste and recycle materials, we opt for recycled drums (collected, washed, dried, painted, etc.) even though we could use new drums, contributing to resource savings and cost reduction.



### Identifying Additional Waste Recycling Companies

At the Cheongyang plant, we transitioned from landfill/incineration to recycling for outsourced waste treatment, completing contracts with relevant companies. This change increased the proportion of recycled waste from 34% in 2022 to 58% in 2023.

### Exceeding Resource Circulation Performance Management Targets (Ulsan Plant)

- According to the Act on Promotion of Transition to Circular Economy and Society, businesses are assigned circular economy targets to autonomously implement.

→ 3rd phase (Implementation Year 2022, Performance Reporting 2023)

- Performance

Category	Content	Target	Achievement	Remarks
Final Disposal Rate	Waste Landfill Indicators	31.5%	5.69%	
Circular Use Rate	Waste Recycling Indicator	40.9%	62.98%	



\* Decrease in the amount of waste entrusted to landfill companies, and increase in the amount of waste entrusted to recycling companies



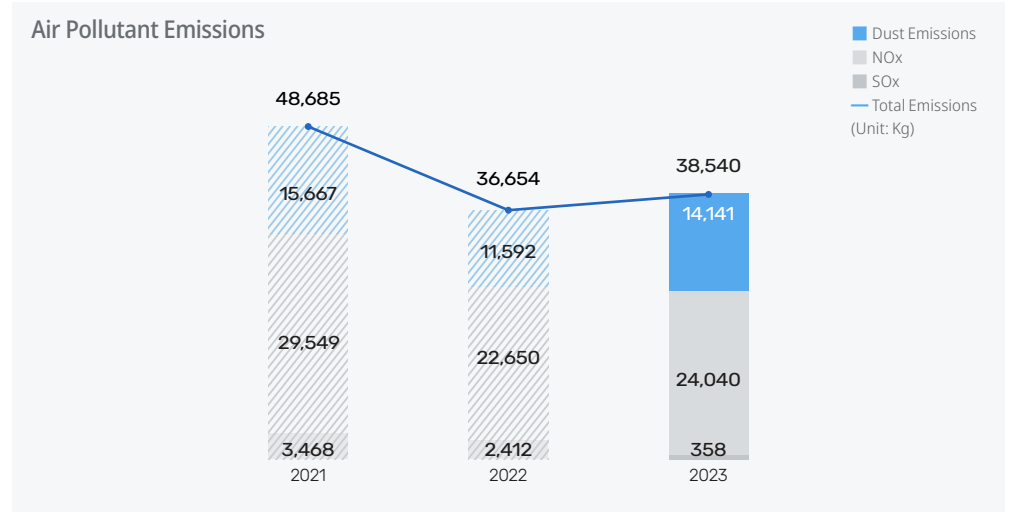
# Waste and Pollutant Management

## Reduction of Air Pollutant Emissions

Aekyung Chemical employs various control facilities to reduce air pollutant emissions. We have installed low NOx burners on LNG industrial boilers to effectively reduce nitrogen oxides, contributing to the reduction of fine dust-inducing substances. Additionally, trace amounts of volatile organic compounds (VOCs) that can be emitted from storage tanks are safely incinerated using regenerative thermal oxidizers (RTOs).

At the Cheongyang Plant, air pollutants generated from reaction facilities in the production process are collected through primary treatment facilities (adsorption, scrubbing, etc.) by process and then treated with RTOs to minimize atmospheric impact. Waste and exhaust gas incinerators collect and treat emissions through scrubbers (wet dust collectors) in a secondary process after incineration. In the Ulsan Plant, air pollutants generated from production processes are first treated with scrubbers and then incinerated through waste gas combustion facilities to minimize environmental impact and reduce odors.

The petrochemical product manufacturing process involves numerous pipes and connection points. The Cheongyang Plant labels each location, such as valves, flanges, and pressure relief devices, where trace amounts of air pollutants may leak to monitor them. Leak inspections are conducted once a year using measuring equipment. Additionally, we have signed a voluntary agreement with local governments to reduce air pollutant emissions by 2024, striving to improve the health and environment of the local community.



## Introduction of TMS, Remote Stack Monitoring System

Aekyung Chemical has installed the Tele-Monitoring System (TMS) to measure various air pollutants emitted from incinerators in real-time and transmit the data to the Ministry of Environment. We comply with our internal regulatory standard, which is 70% of the legally permitted emission limit, practicing eco-friendly operations. Furthermore, in accordance with Article 32 of the Clean Air Conservation Act, we entrust professional management of measuring equipment to a management agency.

- Key Tasks: Regular inspections and part replacements, precision tests, real-time data monitoring and on-site measures



## Installation of Odor Reduction Facilities

Aekyung Chemical has installed micro-spray devices (odor reduction facilities) in wastewater treatment facilities to reduce odor pollutants and create a more pleasant working environment.



# Hazardous Chemical Management

Key Issues for 2023

## CMS Monitoring System

Aekyung Chemical has implemented a Chemical Management System (CMS) to manage the information of various chemicals efficiently from procurement to production and disposal, considering the entire life cycle perspective. This system enables systematic chemical management, helping to comply with domestic and international regulations, preventing misuse of chemicals, and contributing to cost savings related to environmental burdens.

Category	Types/Areas
<b>Pre-Evaluation Management</b>	<ul style="list-style-type: none"> <li>Pre-evaluation for procurement and production (automatic MSDS generation)</li> <li>Control of procurement and production (purchase approval after regulatory compliance check)</li> <li>Regulatory information response</li> <li>Hazardous chemical licensing information</li> </ul>
<b>Inventory Management</b>	<ul style="list-style-type: none"> <li>Inventory of products and substances</li> <li>Quantities, GHS classification, regulatory information</li> <li>Searchable substance list by product</li> </ul>
<b>MSDS Management</b>	<ul style="list-style-type: none"> <li>MSDS management/automatic generation/substance search (Hazard classification and GHS image registration/view/print/history management)</li> </ul>
<b>Legal Regulation Management (Chemical Control Act, Act on the Registration and Evaluation, etc. of Chemical Substances)</b>	<ul style="list-style-type: none"> <li>Regulatory response guidance, follow-up task alerts</li> <li>Management of pre-notification/notification/registration/exemption</li> <li>Management of import/notification/operation permits by business site</li> </ul>
<b>Reporting/Performance Management</b>	<ul style="list-style-type: none"> <li>Performance reporting</li> <li>Statistical surveys</li> <li>Chemical management ledger</li> </ul>

## Usage of Hazardous Chemicals

(Unit: ton)



## MSDS Management

The substances constituting Aekyung Chemical's main products are managed according to the Material Safety Data Sheet (MSDS). To provide accurate chemical information, we fulfill the obligation to supply MSDS to both internal users and external customers. MSDS is confirmed through internal reviews, and upon establishment or revision, the product MSDS is delivered to customers.

### MSDS Sections

Information on the chemical product and the company	Hazards and risks	Names and contents of ingredients	First aid measures
Measures to be taken in case of explosion or fire	Measures to be taken in case of a leakage	Handling and storage methods	Exposure controls and personal protection
Physical and chemical properties	Stability and reactivity	Toxicological information	Environmental impact
Precautions for disposal	Transportation information	Regulatory status	Additional references

### What is MSDS? Material Safety Data Sheet (MSDS)

MSDS is a document that records information about a chemical substance or a product containing it. It includes the name of the chemical, handling precautions from a safety and health perspective, hazards and risks, measures to be taken in case of fire or explosion, physical and chemical properties, carcinogenicity, environmental impact, and more. The purpose of MSDS is to prevent industrial accidents by providing necessary information for the safe handling, use, transport, and storage of chemicals.

# Hazardous Chemical Management Key Issues for 2023

## Establishing a Culture of Hazardous Chemicals Management

Aekyung Chemical provides tailored hazardous chemical management training for managers, handlers, and workers, and conducts pre-assignment online training for new employees before departmental placement. Additionally, various campaigns are conducted to emphasize the importance of hazardous chemicals management among employees.

### Hazardous Chemicals Management Training

Course	Types/Areas	Participants in 2023	Target
<b>Technical Personnel and Managers</b>	16 hours/2 years	8 participants	Technical personnel and managers responsible for hazardous chemicals handling facilities
<b>Handlers</b>	16 hours/2 years (8 hours in-person, 8 hours online)	134 participants	Hazardous chemicals handling personnel
<b>Workers</b>	2 hours/year	134 participants	Personnel working at sites not directly handling hazardous chemicals, including regular and dispatched workers

\* Online training is conducted for new hires before department placement, and carrying out group training at the earliest possible schedule.

### Hazardous Chemicals Campaigns



Organizing Toxic Substance Protection Equipment Campaign (March 2023)



Safe Mark Campaign for Hazardous Chemicals Handling Facilities (November 2023)



## Reduction of Hazardous Chemical Use

Aekyung Chemical strives to minimize the use of hazardous chemicals, including toxic substances, permitted substances, and accident preparedness substances, based on Article 2 of the Chemical Substances Control Act.

### Reduction of Harmful and Toxic Substances

Chemical substances, while developed to enhance the quality of life, can pose risks if improperly managed or misused. Aekyung Chemical is committed to the careful handling of chemicals to prevent potential harm to humanity. We continuously endeavor to reduce or replace the use of hazardous chemicals to minimize related accidents. In line with the Chemical Substance Emission Reduction System, we prepare and implement plans to reduce emissions, developing technologies that comply with strengthened regulations to ensure product sustainability. For example, we have significantly reduced the residual amount of the carcinogen 1,4-dioxane in anionic surfactants, positioning them as eco-friendly premium products.

### Reduction of 1,4-Dioxane

· A byproduct of the ethoxylation process for manufacturing SLES (Sodium Lauryl Ether Sulfate)

\* Listed as a carcinogen by NTP, IARC, and US EPA

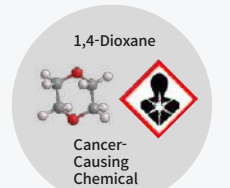
#### 1,4-Dioxane Regulation Status

Category	(Unit: ppm)			
	Domestic	China	ASEAN	USA (NY)
Cosmetics	100	30	25	10
Shampoos, Kitchen Detergents, etc.	100	30	25	1

#### Reduction Efforts: Changed raw material from SLES 70% to ASCO® SLES-270 LD5

Category	SLES 70%	ASCO® SLES-270 LD5
1,4-Dioxane Content in Shampoo	3.60 ~ 18.00	0.36 ~ 0.90
1,4-Dioxane Content in Kitchen Detergent	2.00 ~ 20.00	0.20 ~ 1.00

→ Reduced 1,4-dioxane content in shampoos and kitchen detergents by approximately 90% compared to previous levels



# Water Resource Management

## Reduction of Water Pollutant Emissions

Aekyung Chemical effectively treats wastewater at each plant through dedicated wastewater treatment systems. Initially, physical, chemical, and biological treatments are conducted at our wastewater treatment facilities to reduce pollutants. This process involves adjusting the pH of the wastewater and precipitating suspended solids through coagulation and sedimentation. Sludge generated in this process is properly managed and disposed of by certified waste management companies. Next, biological treatment involves aeration, where microorganisms are used to further remove floating pollutants. The treated wastewater is not discharged directly but is sent to a public wastewater treatment plant in the industrial complex for additional advanced purification processes before being safely discharged.

To meet legal standards for water pollutants, the Ulsan Plant contracts external agencies quarterly to analyze 54 different water pollutants. Additionally, key pollutants like Biochemical Oxygen Demand (BOD), Total Organic Carbon (TOC), and Suspended Solids (SS) are measured daily in-house. Collaboration with the public wastewater treatment plant in the industrial complex ensures the management of pollutant concentrations at least once a week. Beyond compliance with legal standards, we manage the discharge of water pollutants to be less than 50% of the legal standards. Aekyung Chemical devises wastewater treatment plans if our activities result in additional water pollutants, striving to minimize the environmental impact on external ecosystems.

## Automated Rainwater Outlet Control System

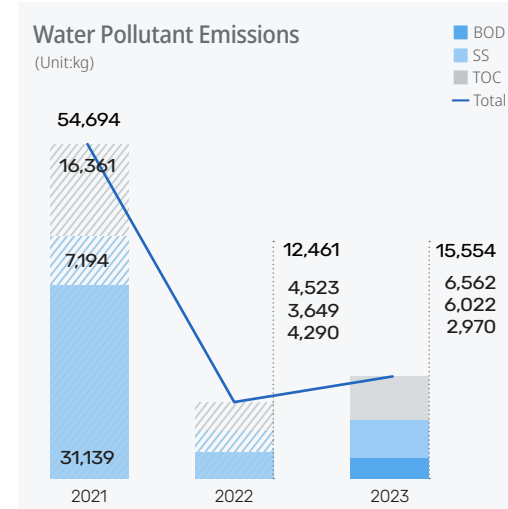
Aekyung Chemical has installed automatic shut-off devices at rainwater outlets to immediately address any deviations from pH water quality standards in rainwater, preventing environmental pollution in aquatic ecosystems during unforeseen events.



The Cheongyang Plant has not only invested in new facilities to reduce water pollutant concentrations but also actively implemented wastewater reuse strategies to reduce pollution sources. As a result, the plant achieved a more than 5% reduction in wastewater generation per unit of production (wastewater generation/production volume, m<sup>3</sup>/ton) in 2023 compared to 2022 (from 0.33 m<sup>3</sup>/ton to 0.28 m<sup>3</sup>/ton). Additionally, systems such as rainwater shut-off valves have been established to ensure that, in emergency situations, pollutants are treated as wastewater rather than being discharged through rainwater outlets.

## Wastewater Emission Reduction Activities at Cheongyang Plant

Category	Content	Category	Content
1Plant	Adhesive Steam Condensate Recovery System	2Plant	14C1 cleaning water recycling
2Plant	Roof Installation for Tank Lorry Cleaning Facility: Prevents rainwater from entering the wastewater system	2Plant	C4 cooling water recovery pipeline installation
		2Plant	Steam condensate reuse facility construction (64V4)
2Plant	40MX1 Seal Water Recycling		



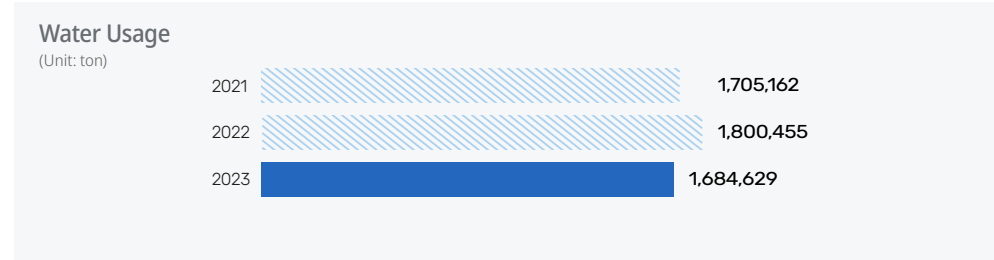


# Water Resource Management

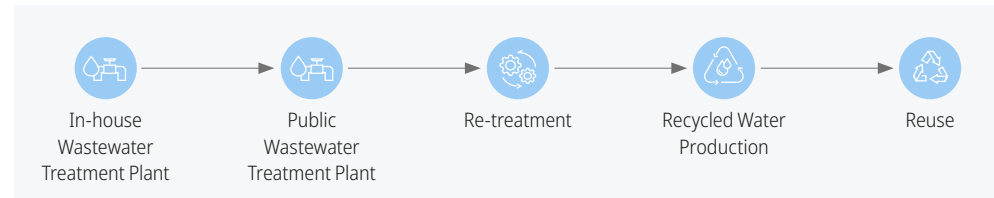
## Water Usage and Reuse

Aekyung Chemical is dedicated to managing water resources by reducing water usage and developing ways to reuse wastewater, process water, cleaning water, and firefighting water, among others. We aim to minimize energy wasted on water resources.

At the Ulsan Plant, we reuse approximately 190,000 tons of water annually, which accounts for 13% of the plant's total water usage, by recycling the effluent from public wastewater treatment plants. Additionally, we utilize a system to recover condensate from boiler facilities, minimizing wastewater generated by boiler water use.



## Ulsan Plant Effluent Reuse Process



1. Wastewater treatment facility at Ulsan Plant  
2. Ulsan Petrochemical Industry Complex Lava discharge water reuse facility

# Biodiversity

## Biodiversity Protection Activities

### Cheongyang Endangered Species Conservation Project

Aekyung Chemical participates in the "Cheongyang Endangered Species Conservation Project" to expand eco-friendly management for regional ecosystem conservation. Together with the Geumgang River Basin Environmental Office, Cheongyang County Office, Daejeon Chamber of Commerce and Industry, and Goun Botanical Garden, we are developing strategies to manage endangered species that are disappearing due to climate change and ecosystem destruction. Aekyung Chemical will continue to work with national institutions, local governments, and other private companies to improve the local environment and preserve the ecosystem as a representative company in the Cheongyang area.



## Process of "Cheongyang Endangered Species Conservation Project"

Category	Quantity
Siberian ginseng	90
Siberian lily	150
Lacinate-flower campion	150
Rabbit-ear iris	150
Vesper iris	150
Ulleungdo hare's ear	150
Korean meadow-rue	150
<b>Total</b>	<b>990</b>



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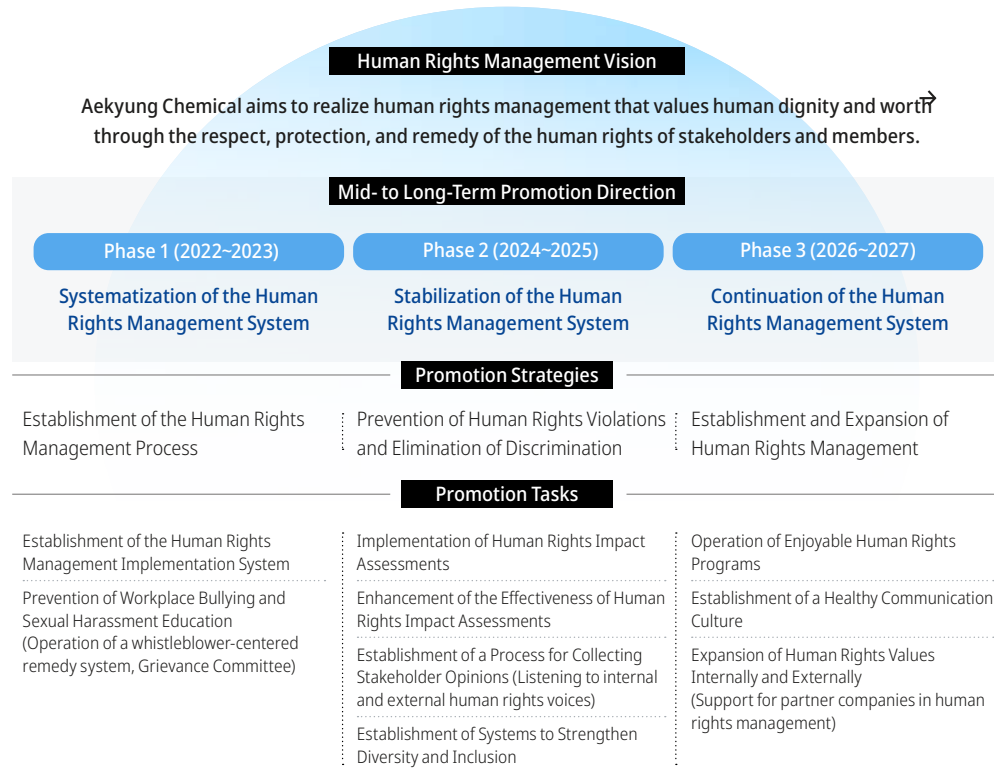
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# Expansion of Human Rights Management

## Human Rights Management Promotion System Human Rights Management Control

Aekyung Chemical places great emphasis on respecting and protecting human rights in pursuing sustainable management. We comply with international standards and norms, including the UN Universal Declaration of Human Rights and the OECD Guidelines for Multinational Enterprises, and focus on prioritizing and respecting human rights across all business activities. To this end, we have established robust policies to prevent and monitor potential human rights violations, both directly and indirectly, at all business sites. Aekyung Chemical strives to fulfill its social responsibilities and sustainable development by practicing human rights management that respects human dignity and value.

### Aekyung Chemical Mid- to Long-Term Goals for Human Rights Management



## Aekyung Chemical Human Rights Management Charter

As a company that has grown alongside the history of Korea's petrochemical industry, Aekyung Chemical actively practices human rights management that values human dignity and worth in all management activities and business processes to add value to human life and create a better world. We fulfill our social responsibilities and pursue sustainable development together with our stakeholders by establishing the "Aekyung Chemical Human Rights Management Charter" as follows.

We pledge to faithfully comply with and implement this charter.

**We respect and support international human rights standards and norms, including the UN Universal Declaration of Human Rights (UDHR), OECD Guidelines for Multinational Enterprises, and the UN Convention on the Rights of the Child (CRC).**

**We do not discriminate in employment and treatment of stakeholders, including employees, based on religion, gender, race, education, region, or disability.**

**We do not tolerate any form of forced labor or child labor, and comply with the minimum working age as defined by the laws of the countries where we operate and international standards.**

**We adhere to working hours and guarantee minimum wages as prescribed by the laws of the countries where we operate.**

**We create a working environment that prioritizes the safety and health of our employees.**

**We guarantee freedom of association and the right to collective bargaining to protect employees' rights and aim for mutual prosperity based on trust between labor and management.**

**We actively prevent human rights violations, such as workplace bullying and sexual harassment, and strive for victim relief.**

**We pursue mutual growth with partners on an equal footing, supporting and cooperating in practicing human rights management.**

**We do not use raw materials or products produced by illegal, unethical methods or those with human rights violation concerns.**

**We prioritize customer value by protecting personal information collected in the course of business.**

**We comply with domestic and international environmental regulations and strive for carbon neutrality, environmental protection, and pollution prevention.**

**We prevent human rights violations in advance and strive for active relief of human rights violations.**

**We respect the human rights of local residents and pursue mutual growth with them.**

We pledge to protect and respect the human rights of all stakeholders, including employees, and to do our utmost to establish and expand human rights management.

All employees of Aekyung Chemical.



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# Expansion of Human Rights Management

## Human Rights Risk Management for Stakeholders

Aekyung Chemical recognizes the potential human rights risks that may arise in our relationships with various stakeholders. We strive to identify, prevent, or resolve these risks to enhance the happiness and quality of life for all stakeholders. Additionally, Aekyung Chemical thoroughly complies with relevant laws and regulations to manage human rights risks effectively. To further emphasize our responsibility to respect human rights, we plan to establish a process for assessing the human rights impacts on each stakeholder group.

We will conduct these assessments regularly and develop appropriate preventive and remedial measures based on the evaluation results.

Stakeholders	Main Concerns	Issues	Preventive or Remedial Actions
<b>Employees</b> 	Fostering a Healthy Organizational Culture	Sexual Harassment and Workplace Bullying	<ul style="list-style-type: none"> <li>· Operation of channels for reporting sexual harassment and workplace bullying</li> <li>· Mandatory Legal education on sexual harassment and workplace bullying</li> </ul>
	Freedom of Association and Collective Bargaining	Collective Agreements	<ul style="list-style-type: none"> <li>· Ensuring union members' activities</li> <li>· Operating the unique committee (Labor-Management Council)</li> </ul>
	Non-discrimination, Equal Pay	Improvement of Employee Awareness on Diversity and Inclusion	<ul style="list-style-type: none"> <li>· Conducting disability awareness education during human rights training</li> <li>· Improving Awareness and Inclusion of Foreign Workers</li> </ul>
<b>Customers</b> 	Protecting Consumer Rights	Addressing Consumer Grievances	<ul style="list-style-type: none"> <li>· Establishing a customer complaint process</li> <li>· Operating a reporting channel on the website</li> </ul>
<b>Partner Companies</b> 	Responsible Supply Chain Management	Understanding Labor Conditions in Partner Companies	<ul style="list-style-type: none"> <li>· Managing compliance with the code of conduct for partners</li> <li>· Conducting meetings and training for partners</li> </ul>
	Fair Trade	Addressing Damages from Unfair Trade	<ul style="list-style-type: none"> <li>· Implementing and operating the compliance program (CP) for fair trade</li> <li>· Operating a reporting channel for unfair trade</li> </ul>
<b>Local Communities</b> 	Duty to Protect Environmental Rights	Environmental Protection in Areas Where Factories Are Located	<ul style="list-style-type: none"> <li>· Save Endangered Species in Cheongyang</li> <li>· Conducting local environmental cleanup activities such as "Plog Together, Clean Forever!"</li> </ul>



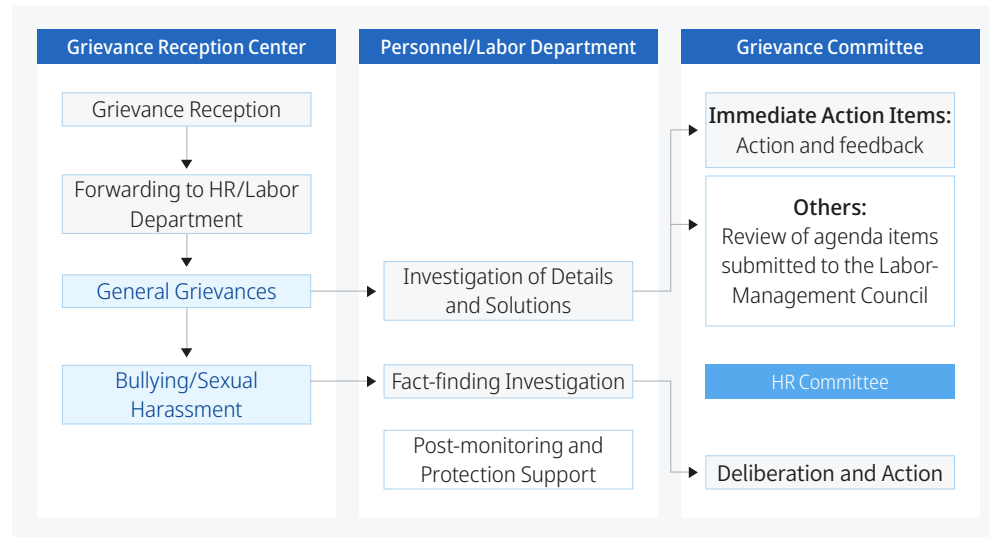
# Expansion of Human Rights Management

## Human Rights Impact Management and Assessment Human Rights Protection Process

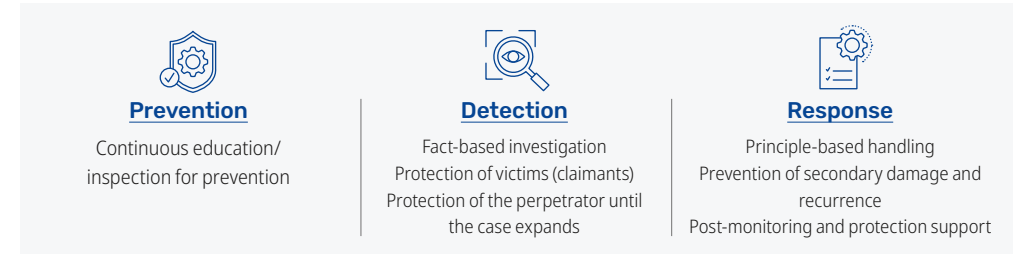
Aekyung Chemical collects various information related to human rights issues to monitor the company's human rights protection status. We meticulously manage reports and cases of human rights issues, law violations, and the hours completed for various human rights training sessions. By strictly adhering to the Labor Standards Act, employment regulations, and collective agreements, we foster a healthy organizational culture.

To prevent human rights risks in advance and raise employees' awareness of human rights, we conduct annual training sessions on workplace bullying prevention, sexual harassment prevention, and disability awareness for all employees, including new hires. Additionally, we have established a process for victims to report human rights issues and take appropriate actions. We conduct thorough investigations of reported or occurring human rights issues and handle them according to principles. Furthermore, we perform post-monitoring to prevent secondary damage and recurrence, implementing measures to protect the victims' rights. The HR Committee imposes appropriate disciplinary actions when human rights violations such as workplace bullying, sexual harassment, or discrimination are confirmed.

### Workplace Bullying/Sexual Harassment Reporting and Handling System



### Principles for Handling Workplace Human Rights Issues (Workplace Bullying/Sexual Harassment)



### Internal Grievance Handling Rate

The details of internal grievances received and related human rights issue reports and their processing are as follows. In the past three years, there was one reported case each in 2022 and 2023, both of which were handled according to internal regulations and procedures. There have been no violations of human rights-related laws in the past three years.

#### Internal Grievance Handling Rate (Related to Human Rights Issues)

Category	(Unit: cases)		
	2021	2022	2023
Human Rights-Related Reports	0	1	1
Human Rights-Related Processing	0	1	1
Occurrence of Discrimination Incidents	0	0	0

#### Violation of Human Rights-Related Laws

Category	(Unit: cases, KRW)		
	2021	2022	2023
Number of Violations	0	0	0
Fines	0	1	1
Penalties	0	0	0

### Human Rights Education

#### Conducting Training to Protect Human Rights

Aekyung Chemical actively endeavors to internalize a human rights management culture within the organization to prevent human rights issues in advance. To this end, we conduct "Workplace Bullying Prevention Education," "Sexual Harassment Prevention Education" and "Disability Discrimination Prohibition Education" for all members, enhancing their awareness and understanding of human rights.



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# Talent Development and Organizational Culture

## Aekyung Chemical HR Policy

### Aekyung Chemical Corporate Culture & Talent Philosophy

Growing alongside the history of Korea's petrochemical industry, Aekyung Petrochemical, merged the capabilities of Aekyung Chemical and AK ChemTech in November 2021 to form Aekyung Chemical. Aekyung Chemical has grown into a comprehensive domestic chemical company supplying raw materials and materials such as plasticizers, biodiesel, synthetic resins for composite materials, and surfactants. Not content with past achievements of over 50 years, we are pursuing new growth as a global leading chemical company. To achieve this, Aekyung Chemical has established the vision of becoming a "Respectable Partner for Your Innovation through Chemistry," and to realize this vision, we have built core values under the acronym "R·E·A·C·T." These core values, which represent our work methods and organizational culture, are Respect, Excellence, Agility, Commitment, and Teamwork.

Aekyung Chemical is crafting HR policies that enable our members to develop their expertise and demonstrate their capabilities. We pursue a corporate culture of mutual growth and coexistence with our members while aiming for continuous innovation and growth. Moreover, we foster talents who pursue challenges and innovation through a horizontal organizational culture and strive to provide fair and competitive rewards to our members.

### Fair and Transparent Performance Evaluation System

Through a fair and objective evaluation system, we provide feedback for employee growth. We have established and operate appropriate evaluation processes for each job category, conducting fair and objective performance evaluations according to evaluation indicators. Performance evaluations are based on work objectives (Key Performance Indicators, KPIs), and competency evaluations are classified by rank and assess whether expected roles are appropriately performed. After evaluations, we transparently disclose evaluation grades and scores for each work objective item and provide feedback to the evaluated individuals. To complement and foster growth among members, we activate feedback on evaluations and strengthen team leaders' responsibility for developing team members.

Based on individual roles and annual evaluation results, we set individual salaries and operate a performance-based compensation system that differentially distributes profits according to individual performance.

### Aekyung Chemical KPI Evaluation Process



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# Talent Development and Organizational Culture

## Policy for Recruiting Outstanding Talent Recruitment Process

Aekyung Chemical operates a systematic recruitment process to secure talent, conducting open recruitment for new employees biannually and continuous recruitment for experienced professionals. We are enhancing the selection process to recruit candidates with the necessary skills and qualifications. Fair screening procedures are conducted based on the job positions, and interviews are conducted by both working-level staff and executives according to objective criteria. To accurately diagnose and objectively evaluate the competencies of applicants, we regularly train interviewers to improve their interview evaluation skills.

Additionally, we require applicants to give a presentation (PT) to confirm their knowledge and expertise relevant to the job. For experienced professionals, we perform additional verification by conducting background checks to confirm past performance and identify strengths and areas for improvement.

In 2024, we plan to define the required competencies for each job category in alignment with our core values and work methods, and develop new interview evaluation forms to assess these competencies, thereby structuring the selection process to recruit talent that aligns with our company values.

### New Employee Recruitment Process

<b>Application Submission</b>	Submit basic personal information, educational background, relevant experience/ qualifications for the applied position, and a self-introduction via the Aekyung Chemical recruitment website.
<b>Document Screening</b>	Comprehensive evaluation of required competencies and qualifications for each job category based on the submitted information
<b>Aptitude Test</b>	Assessment of organizational adaptability and job suitability
<b>First Interview</b>	Practical interview to assess the level of professional knowledge and competency relevant to the applied position
<b>Second Interview</b>	Executive interview to evaluate the applicant's character, organizational fit, and potential
<b>Employment Examination</b>	Conduct employment or pre-placement special examinations
<b>Onboarding</b>	After reviewing the entire recruitment process, the final successful candidates are hired (new hires undergo a 3-month probation period)

## Talent Acquisition Policy

Aekyung Chemical implements various policies to secure outstanding talent. In 2023, to attract excellent R&D talent, we promoted the company and conducted recruitment consultations at major chemical-related academic conferences and key universities. Additionally, we maintained cooperative relationships with career support centers and chemical-related departments at prestigious universities nationwide, promoting recruitment to encourage high-caliber candidates to apply. As a result, we successfully hired 24 R&D talents (10 new hires, 14 experienced professionals) who will drive future growth.

To secure global talent, we placed seven global talents in roles across R&D, overseas sales, purchasing, and HR in countries such as China, Vietnam, Thailand, Malaysia, and Kazakhstan from 2022 to early 2023. In 2023, we also signed a recruitment-linked internship agreement with a leading university in Vietnam to actively secure global talent. In early 2024, we focused on accelerating Aekyung Chemical's global business expansion and securing excellent talent by hiring two professionals from Latin America and the Arab region for overseas sales roles.

To create local jobs and secure local talent, we prioritize candidates from the respective regions during the hiring process for our Ulsan and Cheongyang plants. We plan to institutionalize this practice in 2024 to strengthen local talent recruitment. Additionally, to strengthen management capabilities and secure next-generation leaders, we hired five candidates for team leader/team leader candidate positions. In 2024, we will continue to develop and discover outstanding internal and external talent through various policies.



Academic Conference Recruitment Briefings



University Recruitment Briefings



2024 Global New Employee Welcome Ceremony

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# Talent Development and Organizational Culture

## Employee Training System and Status

### Aekyung Chemical Talent Development Framework

Aekyung Chemical provides various learning opportunities to cultivate agile talents who are responsive and adaptable. We operate educational programs to enhance competencies for each position, from new hires to team leaders, supporting the professional development and proactive growth of our employees. In 2024, we plan to integrate the "AKC Approach to Work," which is based on Aekyung Chemical's core values, into the competency training at all levels. This includes developing educational programs and redefining team leaders' behavior to internalize this working method among all employees.



AKC Approach to Work



AKC Approach to Work promotional posters

Promotional webtoon

### New Employee Onboarding Program

Aekyung Chemical conducts onboarding programs to help new employees quickly adapt and enhance their job competencies. By providing information about the company's identity and business, we aim to increase understanding of Aekyung Chemical's organizational culture and job functions. The curriculum includes both theoretical and practical components. We introduce the management status of each business unit and site, offer education on chemical industry knowledge and products, and support new hires with background knowledge and field experience through tours of research centers and plants. Additionally, we conduct practical training on business manners and document communication, offering a roadmap for rapid adaptation.



Document Communication Training



Team Building Activities



Business Etiquette and Communication Training



Smart Work Training

## Aekyung Chemical Education Framework

Category	Values Education		Level-Specific Competence			Job competency		Global		Group Education		
	Organizational Values	Social Values	Introduction to Levels	Advanced Levels	Core Talent							
Executives	Core Values and AKC Approach to Work	Occupational Safety and Health	Executive Competency Training			Internal Job and Product Training	OJT	External Entrusted Training	Foreign Language Learning Support	Resident Officer Competency		
Team Leaders		Workplace Sexual Harassment Prevention	New Team Leaders	Team Leader Competency Training	Next Leader						Future Management Leader	
P3		Personal Information Protection	P3 Promoted Employees	Team Member Competency Training	SL Program							
Team Members		Disability Awareness Improvement	P2 Promoted Employees									IL Program
P1 (A/E)		Retirement Pension										
New Employees (Entry-level and Experienced)	Workplace Bullying Prohibition	New Employee Onboarding										



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# Talent Development and Organizational Culture

## Competency Training by Position

### New Team Leader Training (Online Master Course on Report Writing)

To enhance the verbal and written communication skills of new team leaders, Aekyung Chemical offers an online master course on report writing. This course is conducted once a year for five weeks, and includes personalized coaching and practical exercises. After the formal training concludes, internal reports and individual feedback from the CEO are also provided.



### New Team Leader Training: Online Master Course on Report Writing

Session	Topic	Lecture Content
Lesson 1	Logical Development of Reports	- Optimal content and format for decision-makers and superiors - How to encapsulate the core in one page - Conclusion-first (deductive) writing
Lesson 2	Structuring and Summarizing Reports	- Organized data presentation using categories - Structuring logic with bullet points - Persuasive intuitive expression Facts, statistics, quotes, etc.
Lesson 3	Writing Concise Bullet Point Sentences	- Logic and basic format of draft reports: title, preface, main text - Logic and basic format of reports Title, summary, background, current status, issues, solutions, administrative details
	Practical Exercises and Personalized Feedback	- Writing draft reports with - Personalized feedback
Lesson 4	Principles and Methods of Writing Planning Reports	- Tips for writing planning report - Guidelines for writing result reports - Guidelines for writing one-page reports - Other report writing tips
	Practical Exercises and Personalized Feedback	- Writing planning/result reports with individual feedback - Personalized feedback
Lesson 5	Principles and Methods of Writing Promotional Materials and Press Releases	- Characteristics of media and principles of articles - Format and guidelines for writing press releases - Characteristics and guidelines for writing emails

### Promotion Training (Mindset Course)

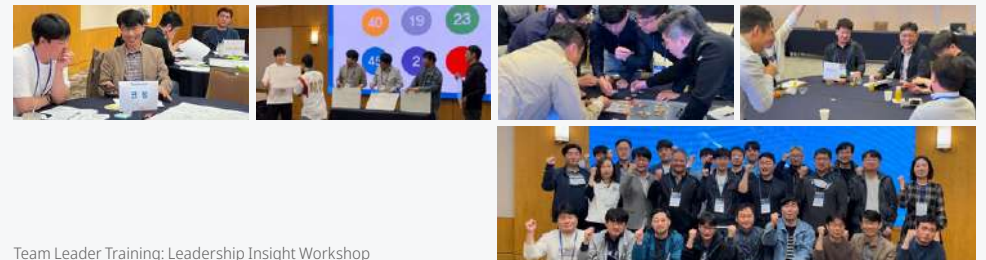
The promotion training program helps newly promoted employees recognize the roles expected in their new positions and develop leadership skills such as coaching team members. This training is conducted by rank and aims to enhance self-efficacy, allowing employees to leverage their strengths in their roles. Additionally, a celebration event for newly promoted employees is held, where they can attend special lectures by internal and external speakers and engage in networking opportunities.



Promotion Training: Mindset Course

### Team Leader Training (Leadership Insight Workshop)

Aekyung Chemical conducts annual leadership training for team leaders, providing insights into the various challenges leaders face within the organization and practical solutions they can apply in their roles. In 2023, the "Team Leader Leadership Insight Workshop" was held, featuring distinguished speakers such as Professor Kyung-il Kim from Ajou University's Department of Psychology, who gave special lectures on topics like metacognition and communication. The program also included activities such as appreciating art and meditation to cultivate humanistic knowledge and leadership insights.



Team Leader Training: Leadership Insight Workshop



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## Job Training

Aekyung Chemical operates the "ChemiClass " annually to strengthen the product expertise of our employees by providing basic chemical knowledge and training on our products. The ChemiClass program is developed and delivered by internal instructors who are responsible for the research of each product. Through this program, employees gain a comprehensive understanding of basic chemical knowledge and the total value chain of our products, including raw materials, research and development, production and processes, and market information. This enhances their professional expertise. ChemiClass content is also made available as online lectures, which can be accessed anytime on our internal learning platform. In 2024, we plan to renew the content of ChemiClass based on comprehensive reviews and improve the program to increase employee participation.



Job Training: ChemiClass

## Global Competency Enhancement Training

### Foreign Language Learning Support

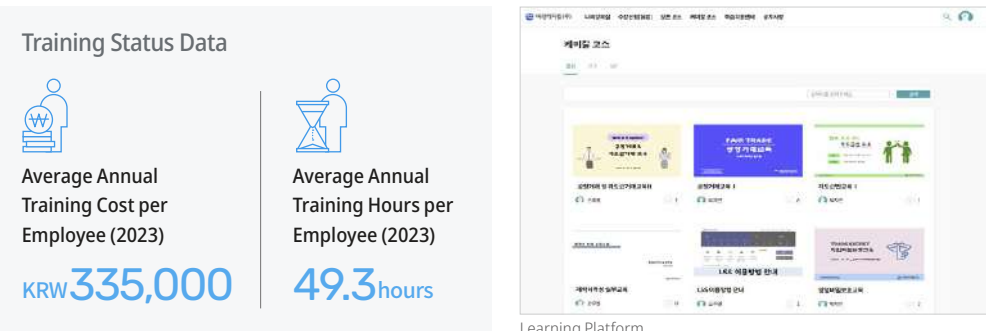
To develop the global competencies of all employees, we provide a foreign language learning support program. Korean employees are offered courses in English, Chinese, Japanese, and Vietnamese, while foreign employees (global talent) are offered Korean language learning opportunities. Employees can choose the learning format and schedule that best suits them. We support language proficiency improvement through various language course contents available at external language institutes, one-on-one phone English lessons, and our internal online education platform.

### Training for New Expatriates

When employees are appointed as new expatriates, we support the enhancement of their communication skills necessary for global business. The training program helps them recognize their roles, develop problem-solving skills, and improve communication abilities, while also providing cultural understanding of the host country to ensure early adjustment. Returning expatriates receive a month-long training to adapt to the domestic organization, along with support for the accompanying family's adaptation to life in Korea.

## Online Education Infrastructure: Learning Platform

Aekyung Chemical provides mandatory legal education, product training, and other self-produced content to employees through an online learning platform. The platform offers various content in micro-learning formats, covering job skills, hierarchical levels, and foreign languages, supporting employees' self-development learning needs.



Learning Platform



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# Talent Development and Organizational Culture

## Organizational Culture Development Collaborative Labor-Management Culture

Aekyung Chemical exemplifies the practice of a collaborative labor-management culture through cooperative partnerships, earning the title of "2023 Excellent Labor-Management Culture Enterprise." Aekyung Chemical has been recognized for its exemplary labor-management culture that respects workers through various initiatives, including the revitalization of the company-wide labor-management council called the "Unique Committee" to foster harmony, the successful implementation of a 4-team, 2-shift work system at its Ulsan and Cheongyang Plants, minimizing non-regular employment by prioritizing regular hiring, introducing "value education" for human resource development, and establishing a mutually beneficial cooperation system with in-house partner companies.

Moving forward, Aekyung Chemical will continue to make various efforts to build a healthy labor-management culture. Through active communication between labor and management, we aim to become a company that is not only good to work at but also a place where people want to work.



Certification Ceremony for Excellent Labor-Management Culture Enterprise



Excellent Labor-Management Culture Enterprise Certificate

## Chemi-Up Workshop for Communication

Aekyung Chemical has organized labor-management workshops to provide a platform for healthy communication and build mutual trust. Through discussions on labor-management relations, the workshops focused on action plans for establishing a collaborative labor-management culture. Participants also attended labor lectures on understanding labor-management councils and grievance handling methods. The workshops included walks and conversations at nearby tourist attractions, allowing participants to broaden their understanding and create a foundation for moving forward together. We will continue to create opportunities for active communication to further improve labor-management relations.

## Communication Channels for Creating a Desirable Workplace

Under the joint goal of "Let's make a company we want to work for," Aekyung Chemical has elected worker representatives at each site to form the "Unique Committee," a joint labor-management communication channel. The Unique Committee gathers a variety of employee opinions to improve job satisfaction and proposes these as meeting agenda items. Committee members discuss ideas together.

One of the most actively discussed topics in the Unique Committee is support measures to enhance work-life balance and job satisfaction. Efforts include increasing the housing loan limits, expanding the eligibility criteria for loans, and raising the health check-up allowances.



Unique Committee



Chemi-Up Workshop



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# Talent Development and Organizational Culture

## Work-Life Balance

Aekyung Chemical operates various systems to ensure the happiness and work-life balance of its members. We continuously improve the work environment to create a happy workplace for our employees. To enhance work-life balance, we actively support flexible working arrangements, enabling employees to balance work and personal life effectively.

In response to employees' desire to "work more intensely when working and rest properly when resting," Aekyung Chemical formed a Labor-Management Task Force Team (TFT) in 2022. We were the first in the Ulsan petrochemical complex to implement the 4-team 2-shift system. Encouraged by the positive feedback from the Ulsan plant, the Cheongyang plant began reviewing the introduction of the 4-team 2-shift system in February 2023. After a three-month trial from April to July and through briefings and consent procedures, it was officially implemented in July 2023. The Cheongyang Plant benefited from indirectly observing the Ulsan plant's precedent. Employees proactively analyzed the pros and cons of the 4-team 2-shift system and proposed operational plans to the company, facilitating earlier implementation than planned.

**Work-Life Balance Initiatives**



- Flexible working hours for office staff
- Flexible work hours for production staff, 4-team, 2-shift work
- Promoting the use of annual leave through campaigns

Aekyung Chemical encourages employees to plan their vacations without hesitation by announcing sandwich holidays and ideal days for using annual leave at the beginning of each year and quarterly. This ensures that employees can take sufficient rest.




Annual Leave Promotion Campaign: Vacation Flex


## Family-Friendly Policies

Aekyung Chemical implements and strengthens various family-friendly policies to support employees during pregnancy and childcare. These include promoting parental leave, family care leave, shortened working hours during childcare, and providing childbirth congratulatory bonuses. Additionally, we host family invitation events at each business site to express gratitude for the employees' hard work and to foster understanding and interaction among family members.


**Family-Friendly Policies**



- Expanded support for childbirth congratulatory bonuses
- Promotion of parental leave
- Support for congratulatory bonuses for kindergarten, elementary, middle, and high school entry, and university tuition
- Support for condolence payments/leave and expanded periods for condolence leave
- Support for selective memorial services
- Selected as Best Family Friendly Management in 2022



Family invitation event: Cheongyang Plant



Family invitation event: Daejeon R&D Center

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# Talent Development and Organizational Culture

## Employee Benefits

Aekyung Chemical supports the quality of life and personal development of its employees through a variety of welfare programs. We provide health checkup support, internal club support, and resort membership benefits for the health and leisure activities of employees and their families. Additionally, we operate and strengthen housing and living stability support systems to ensure the stable lives of our employees.

We believe that the happiness of our employees and their families must be prioritized for the company to grow together. Therefore, we are committed to providing the necessary welfare systems to ensure a happy company life.

<p><b>Housing and Living Stability Policies</b></p> 	<p>Loan Support: Expanded support range and amount for housing loans (rent and purchase) and living stability loans</p> <p>Gifts for Special Occasions and Holidays: Gifts for Labor Day, company founding anniversary, and traditional holidays such as Seollal and Chuseok</p> <p>Support for disaster relief</p> <p>Travel expenses for business assignments</p>
<p><b>Health Promotion Policies</b></p> 	<p>Increased scope and amount of support for health checkups</p> <p>Insurance coverage for accidents and illnesses</p> <p>Coverage for quadrivalent flu vaccinations</p> <p>Health Education Programs: Prevention of brain/cardiovascular diseases, musculoskeletal disorders, job stress prevention, summer health care tips, first aid (CPR), fire/disaster accident prevention training.</p> <p>Health/Psychological Counseling Support: Operation of a healing terrace at headquarters and online counseling services through "Mind Café"</p>
<p><b>Leisure Activity Support</b></p> 	<p>Cafeteria-style welfare points system</p> <p>Support for Internal Club Activities: Support for clubs including table tennis, bowling, futsal, cycling, basketball, board games, golf, etc.</p> <p>Membership and usage benefits for resorts</p>

## Health Promotion Policies

To ensure a comfortable working environment, we have installed air quality monitors in the headquarters office to conduct regular inspections. We also provide training on fire extinguisher use and first aid (CPR) in preparation for emergencies. For employees' psychological health, we run the "Mind Care" campaign and offer online counseling services.



Fire/disaster accident prevention training



First aid (CPR) training



Mind Care Campaign

## Leisure Activity Support

Aekyung Chemical supports club activities to help employees relieve fatigue and stress through leisure activities and promote interaction among employees. Currently, 350 employees participate in 25 clubs covering 17 different hobbies, and this number is increasing annually.



Table tennis club competition



Basketball club



Screen baseball club



Bowling club



Futsal club



Screen golf club

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# Employee Diversity Expansion

## Diversity and Anti-Discrimination

### Diversity Approach

Aekyung Chemical is an organization that guarantees diversity so that all employees can demonstrate their individual capabilities. We operate processes to create a fair organization without discrimination based on gender, disability, educational background, region of origin, nationality, and other factors. We actively hire protected groups such as national veterans and people with disabilities in accordance with relevant laws.

By operating a team of athletes with disabilities, we contribute to the promotion of disabled sports and the creation of jobs for people with disabilities. We will continue to enhance the sense of belonging among team members and increase understanding of diversity through ongoing interaction and support.

Aekyung Chemical has made continuous efforts to enhance gender diversity among our employees. As a result, of the 128 new hires in 2023, 26 were women (20.3%), and we plan to steadily increase the proportion of female employees.

As of the end of 2023, a total of seven foreign employees were working at Aekyung Chemical. In the first half of 2024, we plan to hire two more foreign employees, actively promoting foreign recruitment to expand our global competencies. After hiring, we apply a non-discriminatory compensation system based on the same criteria as domestic employees. We also provide various support activities to ensure they can demonstrate their professional capabilities in a stable work environment. The HR department holds regular meetings to improve the working environment for foreign employees and provides active support in case of visa and other issues.

Aekyung Chemical offers re-employment opportunities to excellent employees who have retired, aiming to create job opportunities and utilize their work expertise. We have established an internal re-employment process and hired two retirees through fair procedures.

### Equal Pay for Men and Women

Recognizing the importance of gender equality, Aekyung Chemical provides equal pay for male and female employees as part of our efforts to eradicate gender discrimination. In 2023, the salaries of female employees (based on contract salaries) compared to male employees were 101% for entry-level office staff, 98% for senior staff, and 100% for managerial staff. Within the same rank, compensation levels are determined based on organizational and individual performance, with no gender-based differences in compensation.

### Employee Diversity Status

(Unit: persons)

Category		2021	2022	2023
Gender Balance	Total Women	74	98	114
	Female Executives	1	1	1
	Female Managers	5	9	12
Employment of People with Disabilities	Total Employees	14	15	14
Employment of National Veterans	Total Employees	24	24	21
Employment of Foreign Nationals	Total Employees	1	4	7
	China	0	2	2
	Vietnam	0	0	2
	Thailand	0	0	1
	Malaysia	0	1	1
	Kazakhstan	0	0	1
	Philippines	1	1	0
Total Employees		683	709	750

### Gender Pay Ratio (Contract Salary Basis)

Female Salary  
Compared to  
Male Salary



Entry-level (P1)

101%

Senior (P2)

98%

Manager (P3)

100%

\* Comparison based on the average contract salary for each office staff rank, indicating that all employees receive more than the legal minimum wage.



# Enhancement of Industrial Safety and Health Key Issues for 2023

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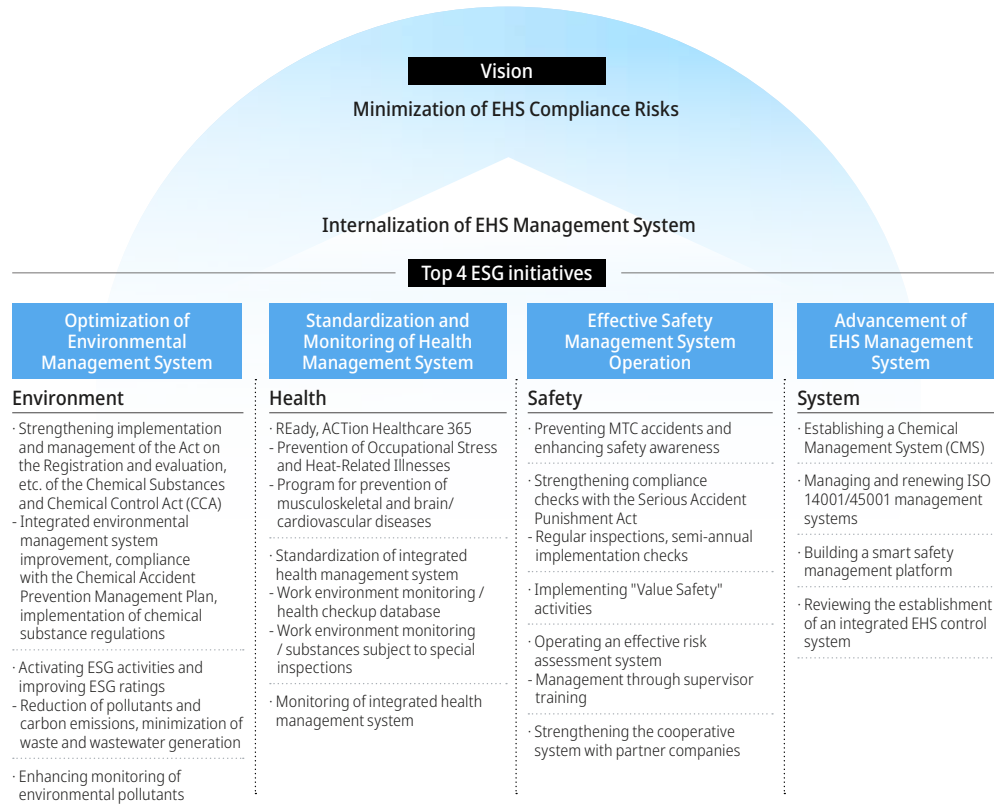
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## Safety and Health Management System

### Safety and Health Management Policy

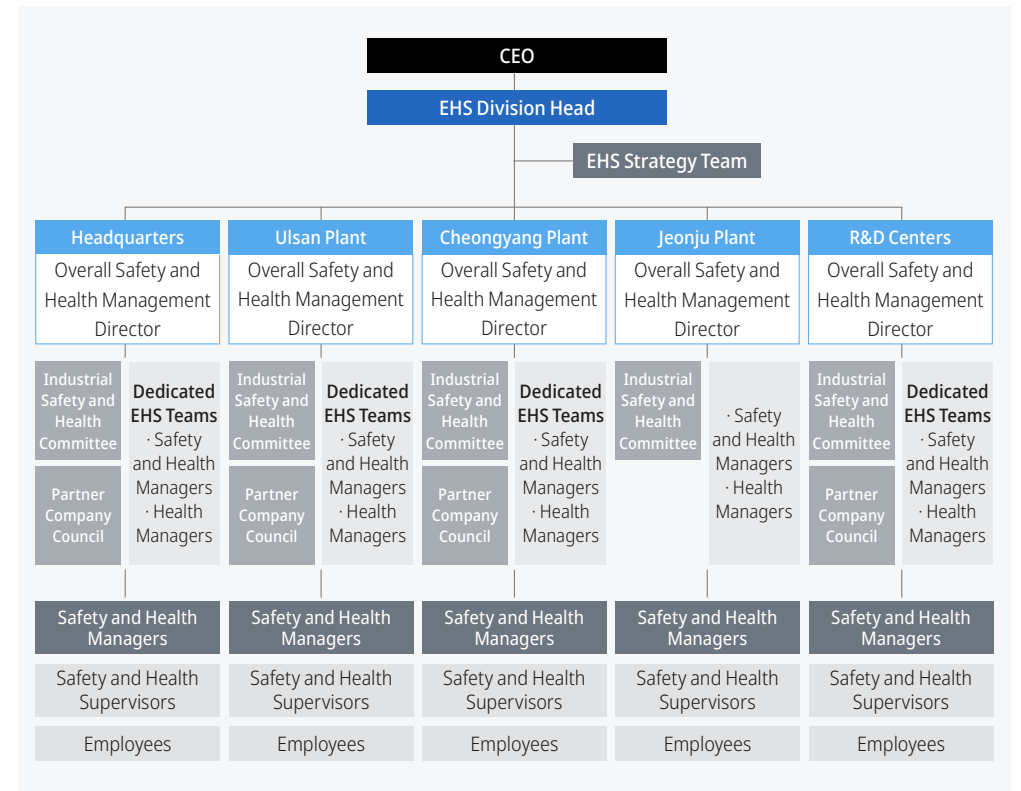
Aekyung Chemical has set the safety and health goal of "Establishing a Sustainable Safety, Environment, and Health System by Minimizing EHS Compliance Risks." We have selected four key focus areas: "Optimization of Environmental Management System," "Standardization and Monitoring of Health Management System," "Effective Safety Management System Operation," and "Advancement of EHS Management System." In addition, we are striving to build a safety-centric corporate culture by incorporating the requirements of the ISO 45001 standard.



## Safety and Health Promotion Organization

Aekyung Chemical has established EHS management organizations for each plant, dividing roles and responsibilities (R&R) to perform safety and health-related tasks accordingly. Additionally, each business site has an Industrial Safety and Health Committee that regularly reviews and decides on important safety and health matters, systematically responding to safety and environmental issues arising in the plants.

## Safety and Health Promotion Organization



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# Enhancement of Industrial Safety and Health Key Issues for 2023

## Establishment of Safety and Health Culture Safety and Health Education

As part of our efforts to prevent workplace accidents, Aekyung Chemical provides essential safety, health, and human rights education to all employees. We allocate quarterly training sessions to ensure mandatory education is completed, enhancing awareness and preventing accidents related to safety, health, and human rights. We will continue to operate various programs such as ongoing internal and external training, inviting external lecturers, and conducting safety and health education for partner companies. These initiatives aim to raise safety awareness among employees and partner company staff and support the establishment of a self-regulated safety system.



## Activation of Safety and Health Communication

Aekyung Chemical actively participates in community safety council activities to establish a joint safety network. We collaborate with participating companies to create a roadmap for major regional accidents, conduct risk assessments, and share recent issues to build a safer community.



## Spreading Safety and Health Culture

To manage safety and health and prevent major industrial accidents, Aekyung Chemical implements activities such as Safety Walks, safety education, and health promotion activities. We also conduct regular fire suppression training for all employees and partner company staff to ensure their preparedness for emergencies. Additionally, we conduct chemical accident simulations (Table Top Exercises) for plant employees to enhance their response capabilities and ensure swift actions during accidents.

Aekyung Chemical holds quarterly EHS team exchange meetings to share safety management know-how across sites and discuss the application of legislative amendments and new regulations. These meetings ensure effective safety management on-site, and we also reference on-site opinions through the installation of safety and health suggestion boxes and organizing near-miss incident proposal contests. Further activities to enhance employee safety awareness include the "Annual Health Management Campaign," "Accident Prevention Campaign," "Health Promotion Campaign," "Noise-Induced Disease Prevention Campaign," the production of "Visitor Safety Education Videos," and the "Safety Golden Bell" activities.



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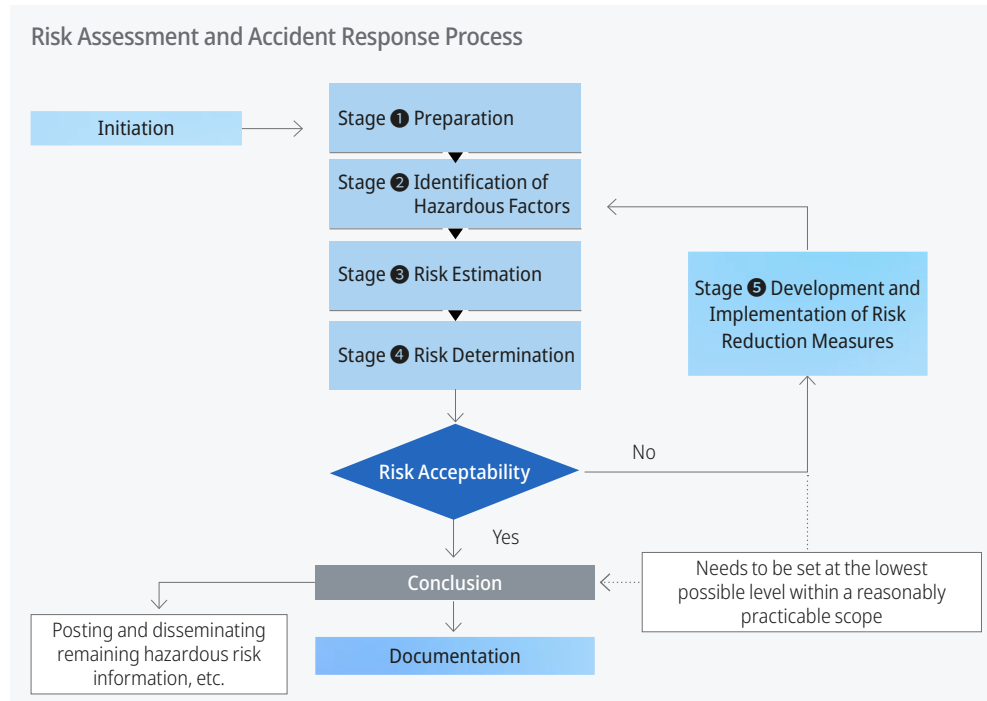
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## Risk Assessment and Accident Response Process

### Risk Assessment

Aekyung Chemical conducts process risk assessments, job risk assessments, and chemical risk assessments for all hazardous factors that workers may be exposed to in the workplace. To identify these hazardous factors, each plant conducts a monthly on-site "Safety Walk" and continuously identifies near-miss incidents. After analyzing accident cases, we implement the findings across all business units, investigate similar equipment, and perform risk assessments to prevent similar incidents from occurring at other sites. Following the risk assessments, we educate all employees about the findings and incorporate regular awareness activities through TBM (Toolbox Meeting) efforts. In 2024, to conduct more professional risk assessments, we plan to replace the training for site supervisors with specialized training for risk assessment personnel, aiming to identify key risk factors and prevent major accidents at the workplace.

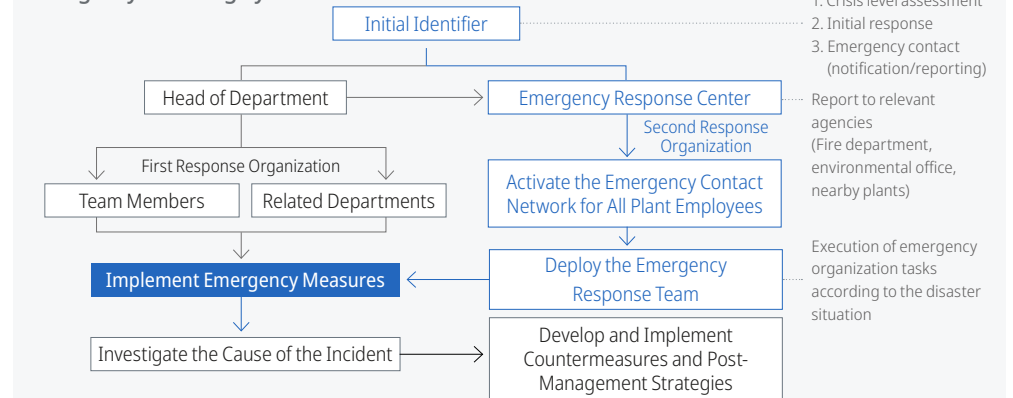


### Accident Response Process

Aekyung Chemical operates a post-management process for reporting, investigating, and taking measures to prevent the recurrence of various accidents or potential hazard incidents. By investigating and analyzing the root causes and issues of accidents and potential risk incidents that occur both inside and outside the factory, we aim to establish and implement improvement measures to prevent similar types of accidents. Additionally, in the event of an accident, we communicate the situation to nearby local institutions to minimize the impact on the community.

By identifying the causes and addressing the issues, the accident analysis results are reflected in safety management operational plans, promoting activities to prevent potential hazard incidents.

### Emergency Handling System



Crisis Levels	Damage Prevention Scope	Scope of Communication
1	Severe: Fire/explosion causing at least one injury, chemical spill over 200 kg, at least one fatality.	All employees
2	Alert: Major defect, chemical spill under 200 kg, unconscious injured person	
3	Caution: General fire, explosion, chemical spill under 200 kg, conscious injured person	Relevant teams and team managers
4	Interest: Detector activation, chemical spill under 5 kg, an injured person able to move	



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# Enhancement of Industrial Safety and Health Key Issues for 2023

## Safety and Health Management for Partners Partner Safety and Health Management

Under the slogan "Safe Jobs for Everyone," Aekyung Chemical is committed to strengthening the safety and health of partner company workers. Through regular partner company council meetings, we listen to the safety and health concerns and suggestions of our partners and implement various exchange activities and support programs based on their feedback.

Category	Partner Companies	Key Topics
January	18 companies	· EHS management plan focus areas and achievement strategies · Request for compliance with safety rules for transporting hazardous materials and transport vehicles
February	20 companies	· Construction accident prevention technical guidance and thorough safety management · Compilation of comprehensive industrial safety and health supervision plan for 2023
March	19 companies	· Request for compliance with safety rules for transporting hazardous materials and transport vehicles
April	21 companies	· Thorough management of partner safety and health legal documents · Communication methods between workplaces, evacuation methods in case of accidents, risk assessment
May	20 companies	· Rain forecast and prevention of heat-related illnesses · Dissemination of accident cases from construction companies
June	22 companies	· Sharing of fire and explosion cases caused by drum and can-opening operations · Rain forecast and prevention of heat-related illnesses
July	21 companies	· Dissemination of our accident cases · Rain forecast alerts and sharing official documents received from relevant departments
August	20 companies	· Sharing of typhoon damage status
September	21 companies	· Application for general/special health check-ups in October · Sharing of Ulsan plant PSM rating evaluation schedule and key points
October	18 companies	· Fall accident alert · Notification of implementation status evaluation of Aekyung Chemical process safety report
November	18 companies	· Notification of results of the implementation status evaluation of the process safety report · Sharing of third quarter joint inspection results
December	18 companies	· Sharing of workplace environment measurement results · Sharing of our accident cases

\* Requests from partner companies: Compliance with Safety Golden Rules during container loading/unloading operations, attendance at process safety education for PSM-targeted processes, requests for regular forklift training, prohibition of wearing uncertified protective gear in the plant, request to change the color of raincoats from black to fluorescent, etc.

## Partner Safety and Health Activities

All partner companies working with Aekyung Chemical must complete safety and health education and wear safety helmets with the "Safety Education Certification" sticker. Before using hazardous machines and equipment, safety inspection procedures must be followed, and only equipment with a "Safety Inspection Certification" sticker can be used. Additionally, joint fire drills and quarterly joint inspection tours with partner companies are conducted to prevent potential accidents and create a safer workplace.



## Number of Reports via Partner Companies' Safety and Health Grievance Channel

(Unit: cases)

Category	2021	2022	2023
Number of Reports	0	0	0



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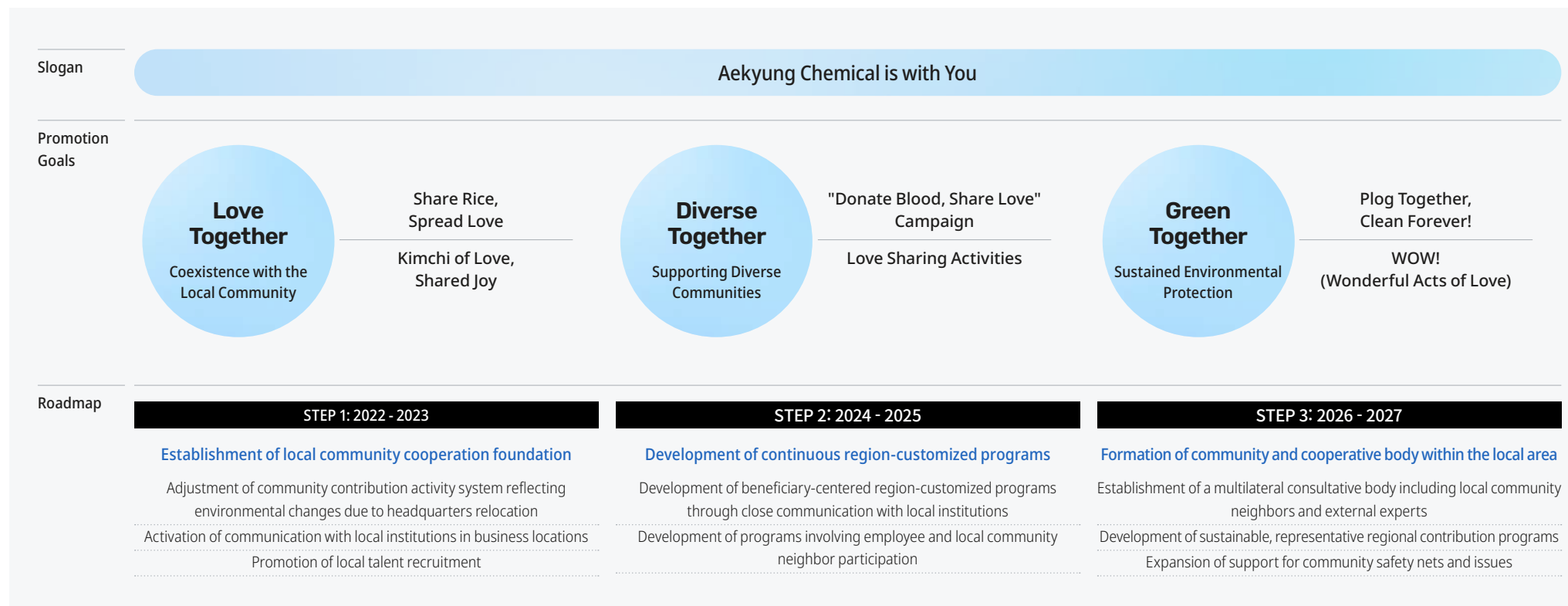
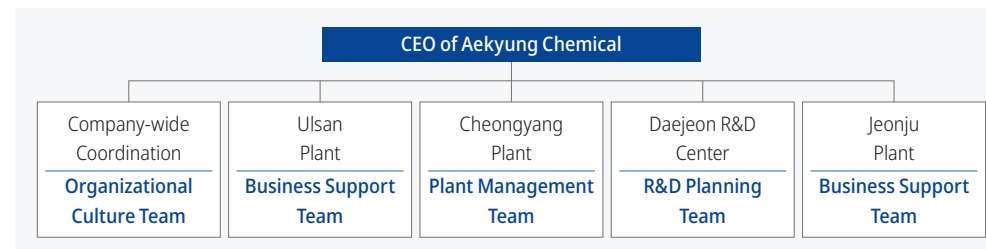
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# Community Contribution Activities

## Community Contribution Activities Promotion System

To practice the group's mission of love and respect, Aekyung Chemical, under the slogan "Aekyung Chemical is with You," is engaged in a variety of community contribution activities. With a sense of responsibility as a member of the local community, we aim to grow alongside the community, continuously developing and promoting sharing activities to support various social strata and environmental protection activities for sustainable management.

## Community Contribution Organization



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# Community Contribution Activities

## Community Contribution Programs

# LOVE TOGETHER

Coexistence with the Local Community



### Share Rice, Spread Love

Aekyung Chemical's representative community contribution activity, ongoing annually since 2003 for 20 years. Purchasing autumn rice from the Ulsan area and directly delivering it to those in need in the Seoul community by employees, sharing warmth and compassion.

### Kimchi of Love, Shared Joy

Employees and local welfare organizations make and deliver kimchi to neighbors experiencing dietary imbalance due to lack of kimchi. Ingredients are purchased from the local community to support small businesses and are packaged in eco-friendly recyclable containers to deliver to vulnerable neighbors.



### Share Rice, Spread Love

Donated 230 bags of autumn rice from Ulsan to a free meal center for elderly individuals over 75 years old in Mapo, Seoul.

November 22, 2023



### Kimchi of Love, Shared Joy

Delivered a total of 700 kg of kimchi, made by employees and Mapo Welfare Foundation staff, to 140 vulnerable households in Mapo, Seoul.

November 13, 2023



### Laundry Detergent Sharing by Ulsan Nam-gu Community Self-Sufficiency Center

Supported the Taehwagang Cleaning self-sufficiency workplace, aiding low-income vulnerable groups in Ulsan, with six months' worth of laundry detergent supplies.

May 23, 2023



### Home Fire Extinguisher Donation in Cheongyang

Donated 360 home fire extinguishers as part of the Cheongyang Fire Station's support project for vulnerable households.

June 8, 2023



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# Community Contribution Activities

## DIVERSE TOGETHER

### Supporting Diverse Communities

#### "Donate Blood, Share Love" Campaign

Every year, Aekyung Chemical participates in a company-wide blood donation campaign. Held twice annually in spring and autumn, blood donation vehicles visit our four business sites: Seoul Mapo Headquarters, Ulsan Plant, Cheongyang Plant, and Daejeon R&D Center, encouraging employee participation. In 2023, a total of 128 blood donation certificates were donated to the Blood Donation House Hongdae Center.

#### Love Sharing Activities

To provide timely assistance to neighbors in welfare blind spots, Aekyung Chemical engages in sharing activities through close communication with local institutions. In 2023, we conducted various sharing activities for different neighbors, including boys in childcare facilities, single-parent families, female adolescents, and energy-vulnerable disabled households



#### "Donate Blood, Share Love" Campaign

Twice a year, every spring and fall, blood donation buses are dispatched to all four of our worksites (Seoul Mapo headquarters, Ulsan Plant, Cheongyang Plant, and Daejeon R&D Center) to encourage employees to participate in blood drives.

(A total of 128 sheets donated In 2023)



#### Bread Making with Love & Sharing

Employees from Seoul Headquarters and Daejeon R&D Center made red bean bread, muffins, and madeines, and delivered them along with warm letters to local elderly people and welfare institutions.

August 9, 2023



#### Love Sharing for Children's Homes in Celebration of Family Month

In celebration of Family Month, we provided essential living items and adolescent skincare products to Sam Dong Boys Town Orphanage, a childcare facility in the Mapo area of Seoul.

April 18, 2023



#### Active Support for the Development of the Korean Table Tennis Industry

Aekyung Chemical actively supports the development of the Korean table tennis industry through a business agreement with the Korea Table Tennis Association to promote the hosting of the ITTF World Team Table Tennis Championships Finals BUSAN 2024.

April 2023



#### Sharing Summer Love Healing Kits

Delivered a total of 100 healing kits, consisting of basic cosmetics and women's products, packed by employees for vulnerable female adolescents in single-parent families in Mapo, Seoul.

July 13, 2023



Sponsored beverages and coffee trucks for the WTT Youth Contender Cheongyang 2023, an international table tennis competition

August 3, 2023



Sponsored 240 antibacterial laundry detergents for the nd Ryu Seung-min 2004 Athens Olympics Victory Commemoration National Table Tennis Tournament.

August 4, 2023



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# Community Contribution Activities

## GREEN TOGETHER

### Sustained Environmental Protection

#### Plog Together, Clean Forever!

We conduct environmental cleanup activities around the areas near our business sites every quarter. "Plog Together, Clean Forever!," which involves picking up trash while walking, helps protect the environment around parks and rivers near our business sites. It also fosters communication among employees and promotes health, with over 100 employees participating each quarter.

#### WOW! (Wonderful Acts of Love)

To create a sustainable environment, we conduct a yearly campaign focused on reducing unnecessary energy consumption and carbon emissions through small, everyday practices. In 2023, aligned with the Ministry of Environment's Single-Use Plastic ZERO campaign, we designated the 10th of every month as Single-Use Plastic ZERO Challenge Day to encourage employee participation.



#### Fourth Quarter "Plogging Along the River"

Conducted quarterly environmental cleanup activities around the areas near our five business sites (Seoul Mapo Headquarters, Ulsan Plant, Cheongyang Plant, Jeonju Plant, and Daejeon Research Institute).

In the fourth quarter of 2023, expanded the cleanup activities to include rivers, streams, and lakes within the local communities.



#### Participated in "Save Endangered Species in Cheongyang" Event

Participated in the endangered plant planting event in Chilgapsan Provincial Park around Chilgap Lake to conserve biodiversity and restore ecological health in the Cheongyang area.

April 26, 2023



#### Cheongyang Flood Recovery Volunteer Work

Conducted flood recovery volunteer work for nearby farming community residents affected by heavy rains in July and August.

August 31, 2023

#### Everyday Carbon Reduction Activity: WOW! Campaign

##### July 2023 - AKC Campaign

Conducted a campaign to capture escaping energy to keep cool in summer while protecting the environment during the summer when the use of air conditioners increases. Encouraged employee participation through a quiz event (Act: Implementing small steps to reduce energy waste, Keep: Capturing cool air to prevent it from escaping, Check: Ensuring unused electrical appliances are turned off).

##### September 2023 - R U ZERO Campaign

Conducted a campaign to minimize waste in line with the Ministry of Environment's Single-Use Plastic ZERO campaign Encouraged employee participation through a photo certification event.

(Recycled through proper separation, collecting single-use items for upcycling, designating the 10th of every month as Zero Single-Use Items Challenge Day)



#### Beautiful Love Sharing Smile Campaign

A resource recycling activity that involves donating unused items to those in need instead of discarding them as trash.

Conducted over three weeks from July 26 to August 16, 2023, across our five business sites (Seoul Mapo Headquarters, Ulsan Plant, Cheongyang Plant, Jeonju Plant, and Daejeon R&D Center), resulting in the donation of about 140 items.



Smile Campaign: A small resource-sharing activity conducted with Beautiful Store, involving the beautiful (美) people of Aekyung Chemical and the beautiful (美) store.

WOW! (Wonderful Acts of Love) - People of Aekyung Chemical reducing carbon



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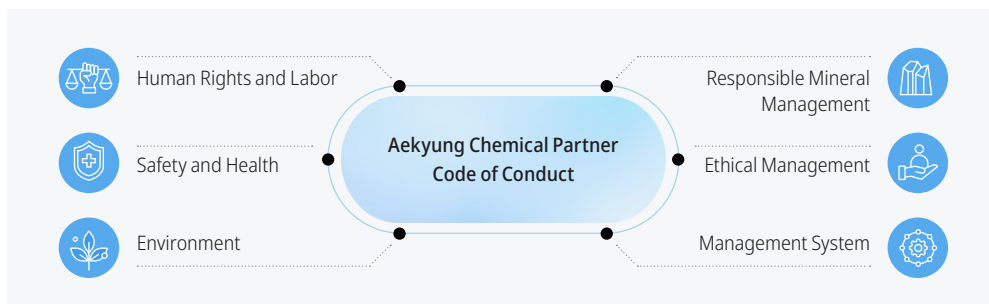
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# Partner and Supply Chain Management

## Partner and Supply Chain Management Communication and Trust-Based Partnership System

Aekyung Chemical, in line with the Aekyung Group's corporate philosophy of "Love and Respect," actively engages with partners across various fields and pursues sustainable management. To this end, we have established the "Partner Code of Conduct," serving as a crucial guideline that emphasizes ethical, environmental, and social responsibilities with our partners. This code of conduct is foundational to building mutual respect, long-term partnerships, and fair trade relations.

It is drafted with reference to the Responsible Business Alliance (RBA) and other global guidelines, applying the stricter standard in case of conflict with local laws.



### Partner Complaint and Grievance Reporting/Handling Process

Aekyung Chemical operates a "Report" window on our website, allowing partners to report issues or grievances arising during business cooperation. This non-face-to-face communication channel enhances accessibility, enabling a broader range of reports. By monitoring these grievances, we strive to create a symbiotic development ecosystem and value our partners' feedback for mutual growth.

### Grievance Reporting and Handling Statistics

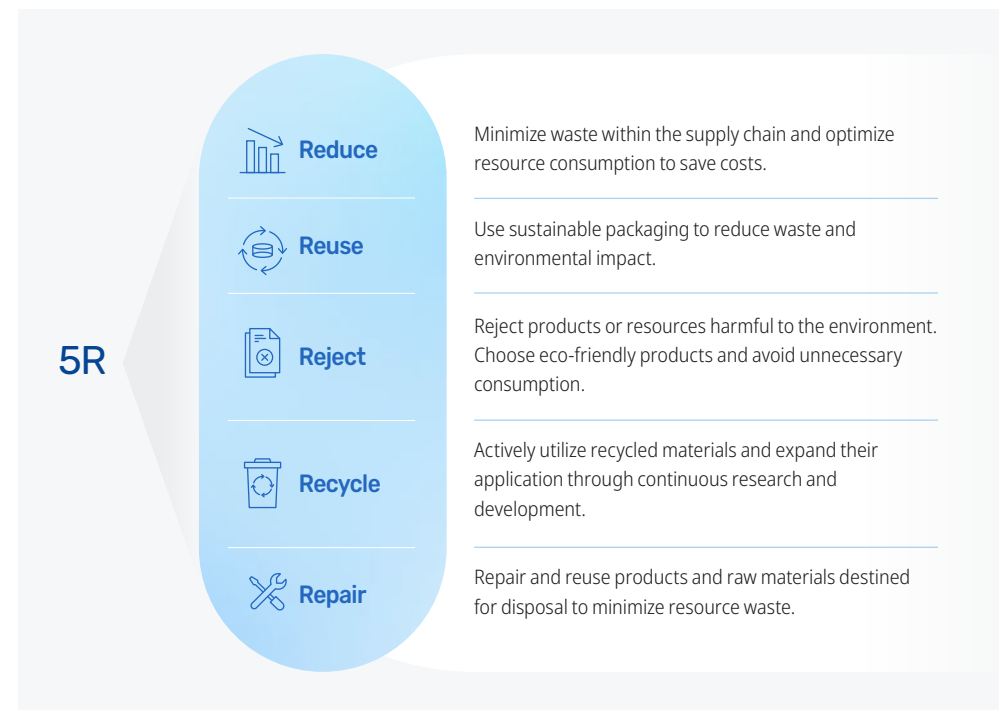
(Unit: reports)

Category	2021	2022	2023	Remarks
Number of Reports	0	0	0	No reports or cases handled

## Sustainable Supply Chain

A sustainable supply chain is a key priority for Aekyung Chemical. We maintain our supply chain responsibly from social, environmental, and economic perspectives. Our efforts to minimize social impacts, protect the environment, and reduce the ecological footprint of our products bring various benefits, including cost savings, increased efficiency, environmental protection, and enhanced social trust.

In particular, Aekyung Chemical adheres to five principles for building a sustainable supply chain:



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# Partner and Supply Chain Management

## Supply Chain Sustainability Management Policy

Aekyung Chemical has established and implements a supply chain sustainability management policy to identify, prevent, and respond to risks that may arise within the supply chain.

### Supply Chain Sustainability Management Policy



**First,**

We will conduct fair and transparent transactions by adhering to fair trade practices.

**Second,**

We will strive to strengthen the capabilities of our supply chain through co-growth programs such as ESG education.

**Third,**

To enhance the competitiveness of supply chain procurement, we will strengthen green purchasing based on a green purchasing policy and continuously identify excellent suppliers.

**Fourth,**

We will regularly evaluate the sustainability of our supply chain, provide guidelines to support the supply chain, and manage risks.

**Fifth,**

We will improve communication with our supply chain through partner meetings and the operation of anonymous reporting channels.

## Supply Chain Sustainability Management Goals

~ 2023

Establishment and Disclosure of the Sustainability Management Policy



2024

Setting Key Supply Chain Scope  
(Identifying and managing key suppliers based on annual transaction volume, core raw material suppliers, and irreplaceable suppliers)



2024

### Supply Chain Evaluation

<b>Purchasing Perspective</b> Performance, financial status, and transactions with our company	+	<b>ESG Perspective</b> Environmental impact, safety, human rights and labor, fair trade
<b>New and Annual Evaluations</b>		



2025 ~

**Post-Management Based on Evaluation Grades (Monitoring And Education)**  
(Excellent Partners: Strategic development / Inadequate Partners: Encourage improvement)



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# Promotion of Fair Trade

## Establishment of Fair Trade Compliance Activity Management System

### Fair Trade Compliance Program (CP)

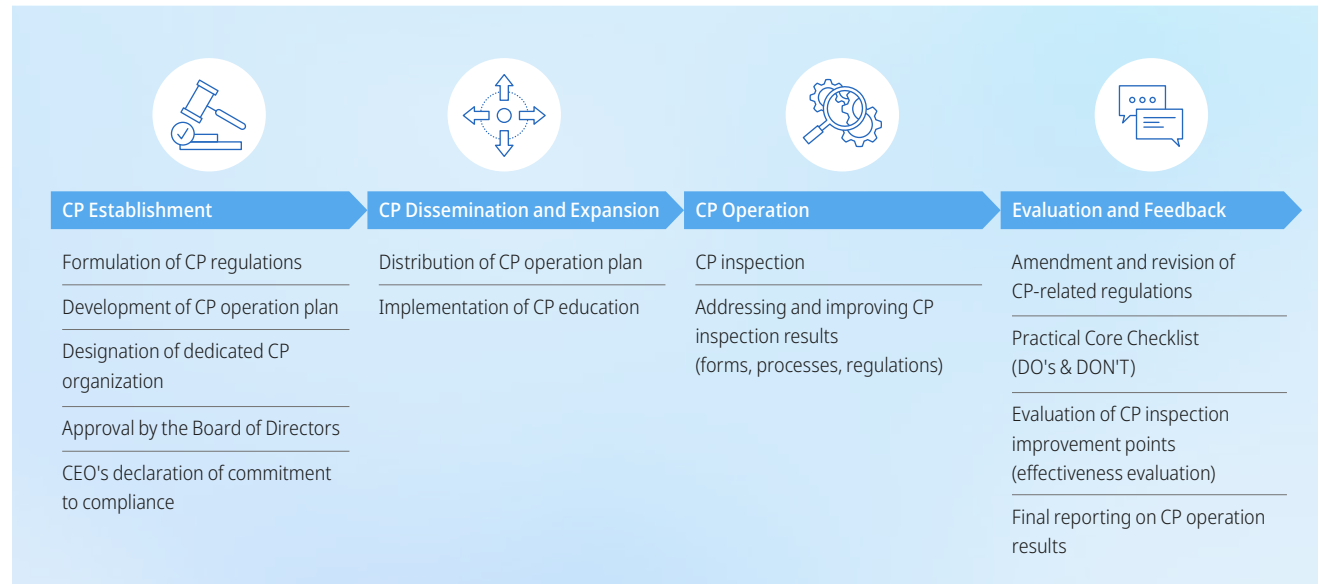
To ensure that employees voluntarily comply with fair trade-related laws and to enhance trust from stakeholders such as customers, partners, and collaborators, Aekyung Chemical has been operating the Fair Trade Compliance Program (CP) since 2023. The CP provides employees with basic and clear standards and procedures to prevent violations of the law in advance, establishing Aekyung Chemical's fair trade compliance activity management system.

Under the supervision of the Compliance Officer, the Legal Team, acting as the dedicated compliance team, manages the Fair Trade Compliance Program. The Legal Team is responsible for checking potential risk factors related to fair trade, providing behavioral standards to employees, and establishing a system to prevent and improve violations of fair trade-related laws. In addition, the team creates and updates the Fair Trade Compliance Manual and provides education on the Subcontracting Act and Fair Trade Act to employees, continuously striving to embed a culture of fair trade compliance at Aekyung Chemical.

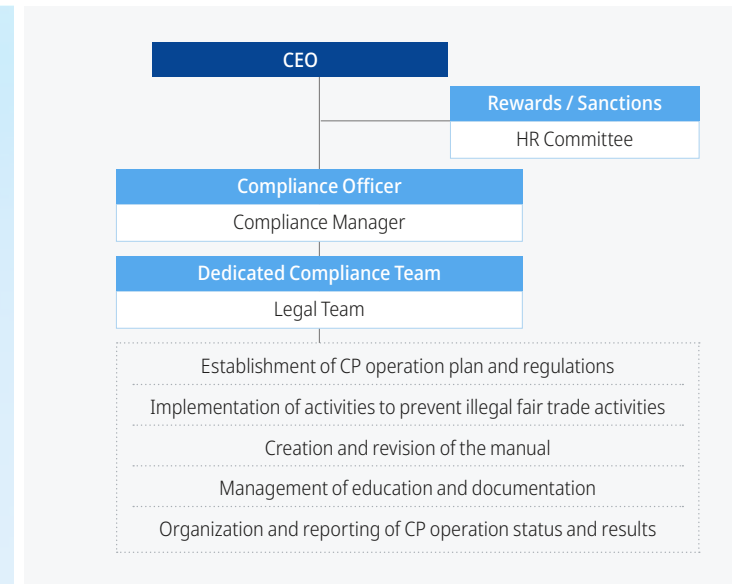


Fair Trade Compliance Manual

### Fair Trade Compliance Program Operation Process



### Fair Trade Compliance Program Operational Organization



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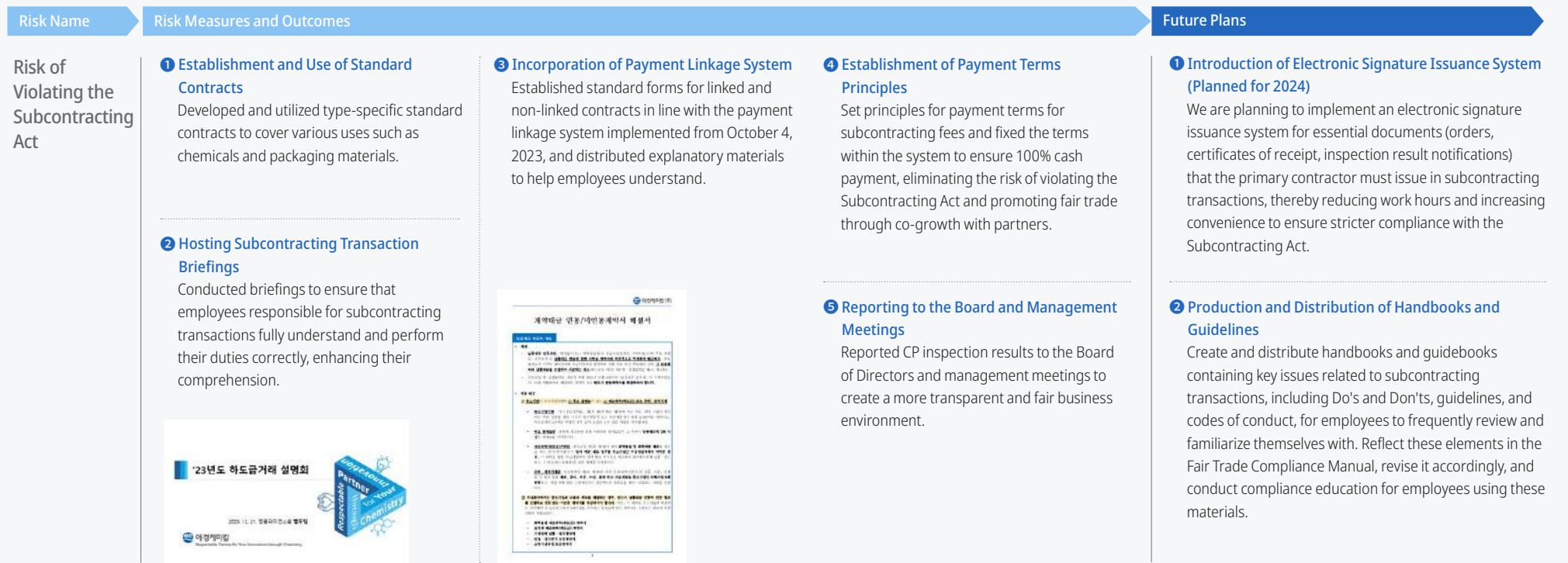
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## Fair Trade Compliance Activities

### Fair Trade Compliance Program (CP) Operation

Aekyung Chemical is committed to operating a Fair Trade Compliance Program (CP) to ensure compliance with subcontracting laws. This includes verifying the lawful issuance of written documents (contracts, orders, certificates of receipt of goods, inspection result notifications) and examining the payment terms for subcontracting fees (including payment within the statutory period). The company identifies and evaluates risks associated with Subcontracting Act compliance. By inspecting risks related to fair trade and unfair competition, identifying issues, and implementing corrective measures, Aekyung Chemical aims to maintain transaction reliability and pursue balanced growth with business partners through mutual support. The results of these inspections are reported to the Board of Directors and management meetings, reflecting our efforts to respond actively to the demands for corporate social responsibility through transparent corporate management activities.

### Subcontracting Transaction Risk Assessment and Measures



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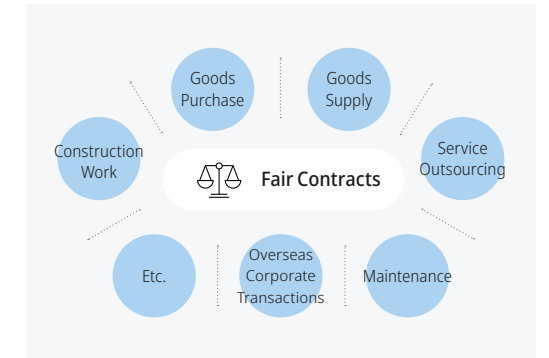
# Promotion of Fair Trade

## Creating a Fair Trading Culture

### Establishment of a Culture of Fair Contracting

Aekyung Chemical actively uses and revises standard contracts for various types of transactions, including goods purchase, goods supply, manufacturing outsourcing, construction subcontracting, and machinery and equipment delivery and installation. These standard contracts incorporate relevant laws and utilize standard clauses announced by relevant government departments. When non-standard contracts are used, the Legal Team reviews them in advance to ensure fair trading conditions are set, striving to establish fair contracts. Particularly for subcontracting transactions, we use standard contracts based on the "Standard Subcontract Agreement for the Chemical Industry" produced by the Fair Trade Commission. Additionally, during contract signing, we require counterparties to submit a Pledge of Integrity to promote fair transactions.

To comply with the Payment Linkage System, which came into effect on October 4, 2023, we have established standard linked and non-linked contracts. These contracts must be used in all applicable transactions to ensure fair contracting with subcontractors. We provide work guidelines and conduct training for subcontracting transaction managers to prevent confusion or oversight. Moreover, we offer various types of legal advice during contract signing to ensure that fair and desirable contracts are executed.



Subcontract Transaction Work Guide

Aekyung Chemical mandates the Legal Team's prior review when signing subcontract agreement to prevent the risk of violating the Subcontracting Act. This process aims to minimize the risk of legal violations in all subcontract transactions and establish a proper subcontracting culture.

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# Promotion of Fair Trade

## Reporting Unfair Trade Practices

Aekyung Chemical provides a platform on its website where employees can report any unfair or improper conduct at any time. This initiative is part of our commitment to fostering a culture of fair trade and protecting the rights and interests of various internal and external stakeholders.

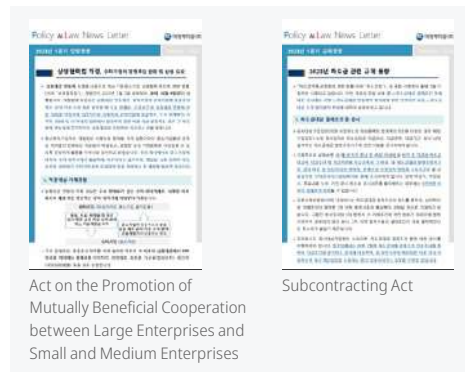


## Fair Trade Education

To emphasize the necessity and importance of fair trade compliance, Aekyung Chemical, led by the Legal Team, conducts more than two group and online training sessions annually for all employees. These sessions cover relevant laws such as the Subcontracting Act and the Fair Trade Act, targeting all employees. Specialized briefings are held for employees handling subcontracting transactions to ensure compliance with related laws. Additionally, new hires receive comprehensive training on legal matters to understand Aekyung Chemical's overall fair trade practices. These varied educational initiatives cater to the specific needs of different employee groups.

## Newsletter Publication

To stay abreast of legislative changes, Aekyung Chemical continuously monitors press releases, legal trends, and updates from key administrative bodies and the Fair Trade Commission. Based on these insights, we publish a newsletter (Policy & Law Newsletter) at least once per quarter that includes legislative updates, government regulations, and recent case studies. This helps employees stay informed and comply with relevant fair trade laws.



Act on the Promotion of Mutually Beneficial Cooperation between Large Enterprises and Small and Medium Enterprises

Subcontracting Act

## Major Fair Trade Education Initiatives

### Contract Drafting Practical Training

<b>Period</b>	April 4 - April 13, 2023
<b>Location</b>	Headquarters, Ulsan Plant, Cheongyang Plant, Daejeon R&D Center
<b>Method</b>	Group education
<b>Content</b>	Importance of contracts, drafting guidelines, key points for pre-review in practice, major issues by contract type
<b>Target</b>	All employees



### Fair Trade and Subcontracting Transaction Education

<b>Period</b>	May 16, 2023, 10:00 AM - 11:00 AM
<b>Location</b>	Headquarters
<b>Method</b>	Group education (simultaneously broadcast online)
<b>Content</b>	Guidelines and cautions on collusion, unfair trade practices, company obligations, and prohibited practices related to subcontracting transactions
<b>Target</b>	All employees



### Interview



### Stakeholder Interview - Aekyung Chemical Employees

The Legal Team at Aekyung Chemical conducts regular fair trade education for employees. This training helps employees prevent potential lapses in compliance and fosters a strong understanding of the importance of adhering to relevant laws. Continuous education like this is vital for Aekyung Chemical's commitment to becoming a more transparent and trusted company in fair trade practices.



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Appendix

# Strengthening Information Security

## Information Security and Personal Information Protection System

Aekyung Chemical is dedicated to protecting its core strategic assets, such as product and technology development information, from security threats like viruses and various malicious programs (e.g., ransomware). We undertake diverse information security and personal information protection activities, categorized into “Human Security,” “Physical Security,” and “IT Service Security.” By adhering to domestic security-related laws and regulations, such as the Unfair Competition Prevention and Trade Secret Protection Act and the Personal Information Protection Act, we have established information security policies and regulations. We strictly implement information security and personal information protection procedures accordingly.

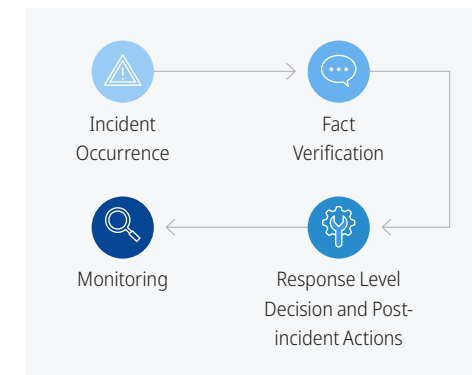
To systematically manage information security, Aekyung Chemical has designated a Chief Information Security Officer (CISO) and, as of 2022, is required to disclose information security status in compliance with the Information Security Industry Act.

Category	Responsible Department	Content
<b>Human Security (Personal Information Protection)</b>  	<b>HR Strategy Team</b>	Collect information security pledges from new hires. Investigate previous employment confidentiality agreements and restrictions on employment with other companies. All employees annually sign an ethical management pledge (including information security) and complete at least one training session on personal information handling and regular security education each year. Conduct annual assessments of security management status, business confidentiality, security of external firms and personnel, and control and training of external visitor access and security personnel.
<b>Physical Security</b>  	<b>Organizational Culture Team Business Support Team</b>	Establish and operate restricted and controlled zones to protect company secrets, special materials, and equipment. Develop and implement internal security plans for protected areas, ensuring security according to authorized procedures.
<b>IT Service Security</b>  	<b>Management RM Team</b>	With the increased importance of IT service security due to digital transformation and the activation of remote work, Aekyung Chemical has adopted solutions like DLP+ and AVG antivirus software to prevent information leakage proactively. Perform access control and management of networks and application systems.

## Response Process

Aekyung Chemical operates a system to prevent information security and personal information breaches. In the event of a breach of information protection regulations or relevant laws or a severe security breach, an incident response system is in place to minimize damage.

### Process



### Personal Information Breach Statistics

(Unit: cases)

Category	2021	2022	2023
Personal Information Breach	0	0	0



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# Strengthening Information Security

## Spreading Information Security Culture

Aekyung Chemical is dedicated to spreading an information security culture by providing regular training to employees on personal information protection and methods for countering cyberattacks. Each year, employees sign an information protection and confidentiality pledge, in addition to the ethical management pledge.

Reflecting recent trends, a dedicated laptop information protection compliance pledge is also signed to promote information security awareness for remote and fieldwork environments. Additionally, we conduct various campaigns to emphasize the importance of information security activities.

Notably, in 2023, we introduced "Watchbot," upgrading our DLP monitoring through RPA. The introduction of Watchbot has enhanced our information security activities by blocking external email usage, access to non-business websites, external messenger communication, and file transfers. Through this, we protect the company's critical information and assets while raising information security awareness among employees.

## Aekyung Chemical Information Security Training

**Purpose** Understanding key concepts related to handling information at work and raising awareness through violation cases

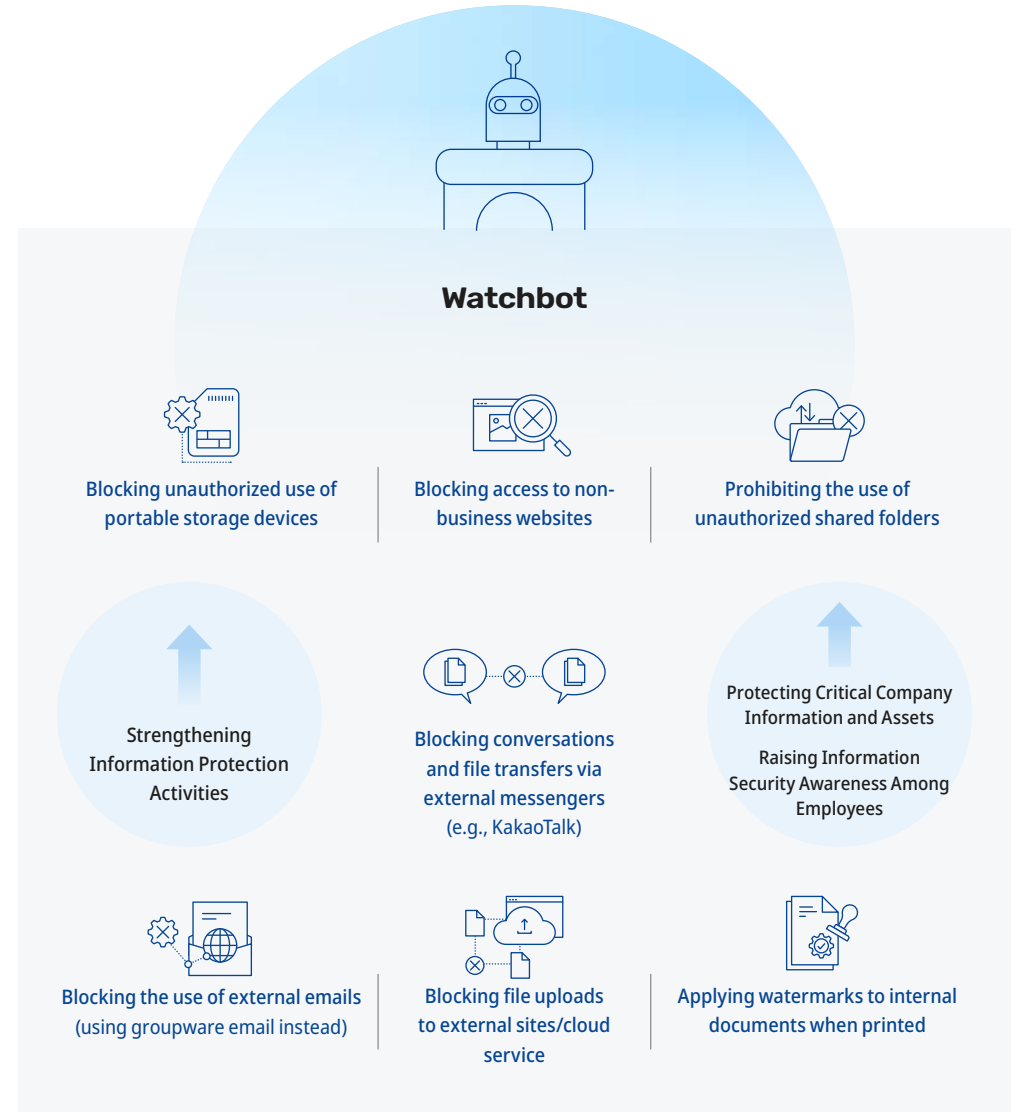
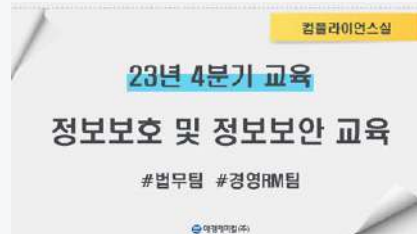
**Schedule** September 11-19, 2023 |  
(separate sessions for each business site)

**Objectives** **Necessity and Methods of Information Protection**

- ① Requirements, violation cases, and protection measures (Unfair Competition Prevention and Trade Secret Protection Act and the Personal Information Protection Act.)
- ② Concepts and violation cases of personal information protection (Personal Information Protection Act)
- ③ Concepts and violation cases of undisclosed Important Information (Capital Markets Act)

**Information Security Policies and Cases**

- ① Reminder of company information security policies
- ② Sharing cases of internal and external information leaks



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# Shareholder Rights Protection

## Shareholder Rights Protection System

### Current Share Ownership and Shareholder Composition

Aekyung Chemical started as SamkyungChemico,Inc. on October 13, 1970. On September 1, 2012, it was split into two entities: Aekyung Petrochemical Co., Ltd. (the surviving company) and AK Holdings, Inc. (a holding company) The surviving entity, Aekyung Petrochemical, took over the manufacturing business and was newly listed on September 3, 2012. Subsequently, on November 1, 2021, it merged with Aekyung Chemical Co., Ltd. And AK ChemTech Co., Ltd., changing its name to Aekyung Chemical Co., Ltd.

According to the Articles of Incorporation, the total number of authorized shares is 200 million, with a total of 48,648,709 shares issued to date. AK Holdings Inc. and its special affiliates hold a 62.20% stake, and as of December 31, 2023, no executives hold company shares.

Upon the split on September 3, 2012, shares were allocated according to the split ratio. On March 14, 2017, a decision was made to acquire treasury shares, and 460,000 shares were acquired by May 12 of that year. During the merger on November 1, 2021, 582 fractional shares were acquired. Between May and July 2023, 95,820 treasury shares were disposed of through six stock option exercises, leaving 380,612 shares held as of December 31, 2023. There are no current plans to repurchase or cancel treasury shares as of the report's publication date.

### Shareholder Status

(As of the end of 2023, based on common stock)

Category	Number of Shares Owned	Ownership Percentage (%)
AK Holdings Inc. and 5 others	30,261,105	62.2
Treasury Shares	380,612	0.78
National Pension Service	1,739,562	3.58
Other Shareholders	16,267,430	33.44
<b>Total</b>	<b>48,648,709</b>	<b>100.00</b>

1) AK Holdings Inc. and five others are major shareholders and special affiliates.

### Method of Convening Shareholders' Meetings

In accordance with the procedures set forth in the Commercial Act and the Articles of Incorporation, Aekyung Chemical announces the date, location, and agenda of the shareholders' meeting at least two weeks prior to the meeting via the electronic disclosure system and the company website. Separate notifications are sent to shareholders owning 1% or more of the shares.

#### Article 19 of the Articles of Incorporation (Notice and Announcement of Convening)

- ① When convening a general meeting of shareholders, the date, location, and agenda of the meeting must be notified to the shareholders in writing or via electronic document at least two weeks before the meeting date.
- ② For shareholders who own 1% or less of the total number of issued shares with voting rights, the notification of the general meeting can be replaced by announcing the intention to convene the meeting and the agenda at least twice in the Maeil Business Newspaper and Korea JoongAng Daily, which are published in Seoul, or by posting the announcement on the electronic disclosure system operated by the Financial Supervisory Service or the Korea Exchange, at least two weeks before the meeting.

Aekyung Chemical guarantees shareholders' proposal rights under Article 363-2 of the Commercial Act. Shareholders holding at least 3% of the total number of voting shares can propose items for the shareholders' meeting agenda in writing at least six weeks before the meeting date. They can also request in writing that the purpose of the meeting be included in the notice and announcement of the meeting agenda six weeks before the meeting date. The handling of shareholder proposals is managed by the Communication Team and other relevant departments. The handling of shareholder proposals is managed by the Communication Team and other relevant departments. To date, there have been no cases of shareholder proposals.

Category		2021	2022	2023
Shares	Major Shareholder Ownership Rate (%)	62.23	62.23	60.30
	National Pension Service Shareholding Rate (%)	1.77	1.43	3.58
	Owner Family Shareholding Rate (%)	4.09	4.09	1.91
Activating Voting Rights	Electronic Voting System Implementation	○	○	○
	Encouragement of Proxy Voting for All Shareholders	○	○	○
Shareholder Rights Protection	Avoidance of Peak Days for Shareholders' Meetings	○	○	○
	Notification of Agenda Items Before Shareholders' Meetings:	○	○	○



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# Shareholder Rights Protection

## Shareholder Rights Protection Activities

### Activities to Protect Shareholder Rights

Aekyung Chemical holds an annual general shareholders' meeting within three months after the end of each fiscal year, considering the consolidated settlement schedule and receipt of the audit report from the accounting firm. If necessary, interim shareholders' meetings are also held. To maximize shareholder participation, we avoid scheduling the shareholders' meeting on peak days when many companies hold their meetings.

Additionally, to increase shareholder attendance and ensure easy exercise of voting rights, we have adopted and implemented an electronic voting system. We encourage shareholders to exercise their voting rights directly or through electronic means, and we are also considering introducing various shareholder convenience systems.

The status of shareholders' voting rights exercised at the general shareholders' meeting (number of shares present, number of voting rights present, and voting results for each agenda item) is disclosed on the company's website.

#### Activities to Protect Shareholder Rights

- 1 Avoiding Peak Days for Shareholders' Meetings
- 2 Implementing an Electronic Voting System
- 3 Encouraging Proxy Voting
- 4 Disclosing Voting Results



12th Regular General Shareholders' Meeting		Unit	Remarks
Total Issued Shares	48,648,709	share	
Shares with Voting Rights	48,268,097	share	
Shares Present	32,317,602	share	Percentage of voting shares present: 66.95%
Shares Present (excluding major shareholders and affiliates)	2,981,012	share	
Total Number of Shareholders	35,216	shareholder	
Number of Shareholders Present	178	shareholder	

### Dividend Status

As part of our efforts to return value to shareholders, Aekyung Chemical conducts an annual cash dividend. Dividend-related information is announced two months before the general shareholders' meeting through a "Cash and Stock Dividend Announcement."

Our dividend policy aims to achieve a payout ratio of over 40% and maintain a stable level of cash dividends in the long term. We are committed to gradually and steadily increasing dividends while considering financial status, investment plans for sustainable growth, enhancement of shareholder value, mid-term management plans, financial structure, dividend stability, and cash flow.

To improve dividend predictability, we amended the Articles of Incorporation at the 12th Regular General Shareholders' Meeting on March 25, 2024, allowing the board of directors to set the dividend record date after the dividend decision date. Additionally, as part of our shareholder return policy, the board of directors can freely set the interim dividend record date. We will continue to strive to enhance shareholder value.

Category	Stock Type	2021	2022	2023
Dividend per Share (KRW)	Common Stock	550	550	250
	Preferred Stock	-	-	-
Dividend Yield (%)	Common Stock	4.9	5.7	1.7
	Preferred Stock	-	-	-
Payout Ratio (%)	Common Stock	42.9	47.1	41.5
	Preferred Stock	-	-	-



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# Board Independence and Integrity

## Board Composition System

### Board of Directors Operating Regulations

Aekyung Chemical's Board of Directors adheres to relevant laws and the company's articles of incorporation to faithfully perform their duties, making decisions on management objectives and strategies, and effectively supervising the management team for the benefit of the company and its shareholders. The Board of Directors is divided into regular and extraordinary meetings, with regular meetings held once a month and extraordinary meetings held as needed. In May 2022, to ensure fairness, independence, and transparency in corporate governance, Aekyung Chemical established the "Corporate Governance Charter," creating a system of checks and balances. To enhance the board's independence, there are plans to appoint an independent director as the chair of the board.

### Responsibilities and Composition of the Board

Aekyung Chemical's Board of Directors supports the management in practicing sound and responsible management. They ensure that reasonable management decisions are made by improving the standards, procedures, and methods of business activities. The board is composed of internal directors, who are professional managers, and independent directors with expertise in various fields to ensure rational decision-making. To ensure the efficiency and transparency of board decisions and operations, continuous education is provided on ethical management, transparent management, understanding the climate crisis and the era of carbon neutrality, ESG disclosures, and the role of the board. Independent directors, whose independence has been verified, are also appointed. The board is structured to meet the requirements of the articles of incorporation, preventing conflicts of interest and promoting checks and balances to strengthen governance and ensure the board's independence and transparency. The term of a director is determined by the shareholders' meeting and cannot exceed three years. Independent directors have a term of three years and can be reappointed only once.

### Principles for Selecting Independent Directors

Aekyung Chemical prioritizes candidates' careers and expertise when recommending independent director candidates. A Nomination Committee for Independent Directors has been established to ensure the selection of independent directors with verified expertise and independence. The following principles guide the selection of independent director candidates:



**Expertise**

Must have the necessary professional knowledge and experience to perform duties.



**Independence**

Must have no business or conflict of interest with the company.



**Responsibility**

Must possess a strong sense of ethics and responsibility suitable for performing duties.

## Composition of Aekyung Chemical's Board of Directors

(As of March 2024)

Category	Name	Role (Field of Activity)	Major Career	Term
Executive Director	Pyo Kyoung-won	CEO, Board Chair, Independent Director, Nomination Committee Member	(Current) CEO, Aekyung Chemical Co., Ltd. (Former) CEO, Aekyung Chemical Co., Ltd. (Former) CEO, Hyosung TNS Inc.	March 25, 2024 - March 26, 2027
Executive Director	Jang Yeong-sin	Executive in Charge of All Operations	(Current) Chairperson, Aekyung Group (Former) Chairperson, Korea Women Entrepreneurs Association (Former) Vice Chairperson, Federation of Korean Industries	March 25, 2024 - March 26, 2027
Executive Director	Park Saeng-hwan	Head of Plasticizer Division	(Current) Head of Plasticizer Division, Aekyung Chemical Co., Ltd. (Former) Head of Global Business Division, Aekyung Chemical Co., Ltd. (Former) Head of Aekyung (Ningbo) Chemical Co., Ltd.	March 25, 2024 - March 26, 2027
Executive Director	Kim Seong-wan	Head of Management Division (CFO), Internal Transactions Committee Member, Sustainable Management Committee Member	(Current) Head of Management Division, Aekyung Chemical Co., Ltd. (Former) Head of Planning Division, AK ChemTech Co., Ltd. (Former) Executive, AMPLUS Asset Development Inc.	March 28, 2022 - March 27, 2025
Other Non-Executive Director	Lee Jang-hwan	Independent Director, Nomination Committee Member	(Current) CFO, AK Holdings Inc. (Former) Head of Financial Investment Group, Lotte Insurance (Former) Head of Alternative Investment Team, Lotte Insurance (Former) Senior Researcher, Future Strategy Center, Lotte Policy Headquarters	March 28, 2022 - March 27, 2025
Independent Director	Yeon Tae-jun	Independent Director, Nomination Committee Chair, Sustainable Management Committee Chair, Audit Committee Member (Legal Expert), Internal Transactions Committee Member	(Current) Vice President, Homeplus (Former) President, Executive Director, GSK Korea	March 22, 2019 - March 27, 2025
Independent Director	Wu Yong-sang	Internal Transactions Committee Chair, Audit Committee Member (Accounting Expert), Sustainable Management Committee Member	(Current) External Auditor and Audit Committee Chair, Gaon Cable Co., Ltd. (Current) Associate Professor (Accounting), Ewha Womans University (Former) Assistant Professor (Accounting), The Catholic University of Korea	March 28, 2022 - March 27, 2025
Independent Director	Ju Seong-do	Audit Committee Chair (Finance Expert), Internal Transactions Committee, Independent Director, Nomination Committee	(Current) Auditor, UBCare Co., Ltd. (Former) Audit Committee Chair, AJ Capital Co., Ltd. (Former) CEO, SCI Information Service Inc	March 28, 2022 - March 27, 2025

No eligibility restrictions

Employed full-time

Professional management

**Executive  
Director**



**Independent  
Director**

Strict legal requirements required

Employed part-time

Expertise in each field + independence from the company



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# Board Independence and Integrity

## Board Committees

Aekyung Chemical establishes and operates four board committees (Audit Committee, Independent Director Nomination Committee, Internal Transactions Committee, and Sustainability Management Committee) in accordance with its Articles of Incorporation and board regulations. Separate regulations have been established for each committee and disclosed on our website. To ensure the professionalism of decision-making and enhance operational efficiency, each committee is primarily operated by independent directors, with at least two members and a majority of the committee being independent directors, and significant authority delegated to them. The roles and responsibilities of each member are clearly defined to ensure mutual checks and balances among board members.

### Audit Committee

The Audit Committee performs audit tasks covering accounting, finance, and overall company operations in accordance with laws and regulations. For accounting audits, the committee receives support from the company's finance and accounting departments, reviews relevant documents such as the balance sheet, and examines the audit procedures and results of the accounting firm. The committee also reviews the operation of the internal accounting control system, which is established to enhance the reliability of accounting information, based on reports from the CEO or internal accounting manager.

### Internal Transactions Committee

The Internal Transactions Committee examines and approves transactions between the company and related parties, including major shareholders, significant shareholders, affiliates, and other stakeholders, in accordance with the Internal Transactions Committee's operating regulations. While regulations concerning transactions with internal stakeholders are in place, the committee monitors these transactions to ensure systematic, transparent, and fair dealings.

### Independent Director Nomination Committee

The Independent Director Nomination Committee verifies the independence and qualifications of candidates for independent director positions and recommends them to the board. The committee holds the authority to recommend candidates for independent director positions to be appointed at the general shareholders' meeting. To guarantee the committee's independent status, more than half of its members are independent directors.

### Sustainability Management Committee

Aekyung Chemical established the Sustainability Management Committee through a board resolution on February 19, 2024. This committee aims to formulate basic policies and strategies related to sustainability management. To ensure the committee's independence and transparency in operations, it is composed of a majority of independent directors.

## Board Evaluation and Compensation System

The remuneration limit for Aekyung Chemical's directors is determined by resolution at the general shareholders' meeting in accordance with Article 388 of the Commercial Act and Article 39 of the Articles of Incorporation. Within this limit, remuneration is paid according to internal salary regulations. Independent directors and audit committee members receive remuneration based on contracts upon appointment. The performance evaluation of management and executives is conducted comprehensively, considering work capabilities, which forms the basis for determining remuneration. For the fiscal year 2023, the resolved remuneration limit for directors was KRW 5.5 billion, with the total remuneration paid to directors amounting to approximately KRW 1.392 billion. Additionally, as required by relevant laws, since 2013, individual remuneration exceeding KRW 500 million and major resolutions are disclosed through the business report to transparently provide information to stakeholders.

### Remuneration Status of Directors and Auditors

(As of December 31, 2023, Unit: KRW million)

Category	Number of People	Total Remuneration	Average Remuneration Per Person	Remarks
Registered Directors	5	1,182	236	Jang Yeong-sin/Pyo Kyoung-won/ Park Saeng-hwan/Kim Seong-wan/Lee Jang-hwan
Audit Committee Members	3	210	70	Yeon Tae-jun /Ju Seong-do /Wu Yong-sang

## Board Activities

The board reviews and approves major investments and business activities to ensure smooth and sound management. In 2023, Aekyung Chemical held a total of 18 board meetings. As of the end of 2023, the average attendance rate of incumbent directors at board meetings was approximately 91%, maintaining a high level. There were a total of 45 agenda items submitted to the board in 2023, consisting of 31 resolution items and 14 reporting items. The 2023 activities of the board committees are as follows:

Category	Number of Meetings	Agenda Items	Approved	Reported
Audit Committee	8	14	7	7
Internal Transactions Committee	11	17	13	4
Independent Director Nomination Committee	-	-	-	-



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# ESG Governance

## Establishment of a Framework for Sustainable Management

Aekyung Chemical prioritizes ESG (Environmental, Social, and Governance) management as the top priority in corporate operations, under the management principles of "Together with Environment," "Happy Society," and "Equitable Governance." Through these principles, we have advanced our ESG management system, embedding the importance of ESG management in all employees and driving sustainable growth. To further our goal of becoming a leading global petrochemical company, we established the Sustainability Management Committee in February 2024. This committee comprises a total of four members, including three independent directors and one executive director. The committee is composed of experts from various fields to pursue systematic and sustainable ESG management.

The Sustainability Management Committee is scheduled to hold two regular meetings annually and additional meetings as needed to address emerging issues. Major agenda items, such as "Formulating and managing ESG strategies and implementation plans," "Establishing and revising regulations related to ESG," and "Responding to and deciding on important ESG issues," are reported to the board of directors.

## Composition of the Aekyung Chemical Sustainability Management Committee

Category	Name	Role (Field of Activity)	Major Career
Chairperson (Independent Director)	Yeon Tae-jun	Audit Committee (Legal Expert), Internal Transactions Committee, Independent Director Nomination Committee Chair	(Current) Vice President, Homeplus (Former) President, Executive Director, GSK Korea
Member (Independent Director)	Wu Yong-sang	Audit Committee (Accounting Expert), Internal Transactions Committee Chair	(Current) External Auditor and Audit Committee Chair, Gaon Cable Co., Ltd. (Current) Associate Professor (Accounting), Ewha Womans University (Former) Assistant Professor (Accounting), The Catholic University of Korea
Member (Independent Director)	Ju Seong-do	Audit Committee Chair (Finance Expert), Internal Transactions Committee, Independent Director Nomination Committee	(Current) Auditor, UBCare Co., Ltd. (Former) Audit Committee Chair, AJ Capital Co., Ltd. (Former) CEO, SCI Information Service Inc
Member (Executive Director)	Kim Seong-wan	Head of Management Division (CFO), Internal Transactions Committee Member	(Current) Head of Management Division, Aekyung Chemical Co., Ltd. (Former) Head of Planning Division, AK ChemTech Co., Ltd. (Former) Executive, AMPLUS Asset Development Inc.



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# Ethical Management and Compliance

## Main Programs of Ethical Management Ethical Management System

Aekyung Chemical is fully committed to ethical management activities. Aiming to be a company that contributes to society based on love and respect, we have established an Ethical Charter and are striving to ensure that all members comply with it. We pursue ethical management based on mutual trust with various stakeholders, including customers, shareholders, employees, competitors, and partners.

Aekyung Chemical promotes ethical awareness among members through regular ethical training. Through these efforts, we are building an ethical corporate culture, which serves as a crucial driving force for our continuous growth and development.

### Announcement of Ethical Charter and Code of Ethics

Aekyung Chemical clearly recognizes its legal and ethical responsibilities and strives to fulfill its social responsibilities. We aim to practice ethical management and foster the right ethical consciousness to contribute to the enhancement of social and corporate values. To this end, we have established an Ethical Charter, which serves as a standard for the correct behavior and value judgment of employees, and a detailed Code of Ethics to implement it. All employees must adhere to this Ethical Charter and Code of Ethics, and their contents are disclosed on the company's website.

#### Ethical Charter



- ① We respect the law and social norms, and do not engage in illegal or fraudulent acts.
- ② We prioritize trust with customers and strive for their happiness.
- ③ We respect the rights of shareholders and enhance corporate value through transparent and efficient management.
- ④ We respect the diversity of employees, do not discriminate, and promote mutual trust and cooperation.
- ⑤ We respect fair trade principles, establish a sound market order, and pursue the value of mutual growth.
- ⑥ We fulfill the social roles and responsibilities required of a company as a member of society.

## Spreading Ethical Management Culture

### [Ethical Management Practice Pledge](#)

All employees annually sign the Ethical Management Practice Pledge.

### [Implementation of Ethical Management Education](#)

We provide education on the company's ethical standards and compliance requirements through recent case studies and insights.

(Target Audience for Ethical Management Education: All business sites)



#### 2023 Employee Ethical Management Education (June 19, 2023)

##### Aekyung Chemical Ethical Management Education

- Code of Ethics Framework and Compliance Requirements
- Recent Corporate Incident Case Studies and Implications

## [Operation of the Website Reporting System](#)

We operate a reporting channel on our website so that various internal and external stakeholders can report unethical activities. Reported issues are handled confidentially, and the protection of whistleblowers is prioritized under any circumstances to ensure safe reporting.

### Number of Reports on the Website

(Unit: Cases)

Category	2021	2022	2023
Number of Reports	0	0	0



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## Compliance Management Compliance System

Aekyung Chemical is establishing a compliance framework through the formation of the Legal Team and the Management Risk Management (RM) Team under the Compliance Office. We are enhancing the operation of the compliance control system by establishing compliance control standards and procedures. In 2024, we appointed a compliance officer to ensure continuous improvement. Additionally, we have established internal accounting management regulations and designed and operated an internal accounting management system, which we report to the general shareholders' meeting, the Board of Directors, and the Audit Committee. These activities involve conducting audits by external auditors and specifying audit opinions in the audit report.

Aekyung Chemical strictly prohibits corrupt practices in its business and sales activities. To this end, we adhere to domestic and international laws and internal regulations related to anti-corruption. We manage corruption-related risks in our operations through internal and external reporting channels on our groupware and company website, and through an electronic monitoring system. This process guarantees strict anonymity, investigates the occurrence of violations, and imposes strict penalties on those involved in any violations.

Aekyung Chemical is committed to continuously enhancing the compliance management and internal control system to solidify compliance management. We will also promote the culture of compliance through regular education and the creation of handbooks.



### Compliance Education



#### 2023 Employee Integrity and Anti-Corruption Education (June 19, 2023)

##### Aekyung Chemical Anti-Corruption Education

- Key Provisions and Violation Cases of the Anti-Graft Act
- Overview of Anti-Corruption Laws and Sanction Cases in China and Vietnam
- Importance of Compliance Activities for Enhancing Corporate Competitiveness



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# Enterprise-wide Risk Management

## Risk Management System

Aekyung Chemical has established risk management regulations to identify and respond to potential risks across our business operations. When risks occur, we promptly identify them by categorizing them as financial or non-financial based on predefined risk types, allowing relevant departments to respond effectively. We identify risks such as changes in industrial structure, market volatility, and global issues, after which the responsible department analyzes these risks and determines response strategies. We continuously monitor the outcomes of these responses, with the Ethics/Compliance Department, internal audits, and internal control systems supporting and monitoring to strengthen prevention and recurrence prevention.

Aekyung Chemical aims to minimize losses through our risk management framework. By analyzing risks by type and formulating response strategies, we strive for stable growth. To achieve comprehensive analysis, we plan to establish committees and consultative bodies, enabling us to achieve continuous growth while preparing for uncertainties.

<b>Risk Identification</b>	<ul style="list-style-type: none"> <li>Changes in the market environment</li> <li>Stakeholder requirements</li> </ul>
<b>Risk Analysis</b>	<ul style="list-style-type: none"> <li>Identification and analysis of risks/opportunities</li> </ul>
<b>Decision on Response Level</b>	<ul style="list-style-type: none"> <li>Prioritization and determination of significance</li> </ul>
<b>Monitoring</b>	<ul style="list-style-type: none"> <li>Approval and supervision of management directions and policies</li> </ul>

## Risk Management Measures

Aekyung Chemical prepares to identify various potential risks for sustainable management, categorizing them into financial and non-financial risks for constant response.

Category	Risk Types	Content	Response Strategies	Responsible Departments
Financial Risks	Economic/Financial	Losses due to market fluctuations in interest rates, exchange rates, raw materials, oil prices, and trade disputes	<ul style="list-style-type: none"> <li>Monitoring financial markets and hedging exchange rate risks</li> <li>Regular monitoring and reporting of international oil prices and raw material trends</li> <li>Diversification of raw material supply</li> </ul>	Purchasing Division, Finance Team
	Credit	Risks arising from changes in the creditworthiness of trading partners	<ul style="list-style-type: none"> <li>Setting differentiated total credit limits based on credit investigations of trading partners</li> <li>Operating a Credit Management Council and managing high-risk trading partners</li> </ul>	Management RM Team
	Liquidity	Risks related to the shortage of operating funds and financing processes	<ul style="list-style-type: none"> <li>Regular monitoring and reporting of cash flow and liquidity status</li> </ul>	Finance Team
	Tax	Risks related to tax issues arising from overall business activities.	<ul style="list-style-type: none"> <li>Fulfilling tax obligations according to national regulations where business sites are located</li> <li>Compliance with OECD transfer pricing guidelines</li> <li>Managing the implementation of BEPS reports and transfer pricing reports</li> </ul>	Accounting Team
Non-Financial Risks	Environmental	Risks of violations of environmental policies and related regulations, leading to corporate image damage and fines	<ul style="list-style-type: none"> <li>Obtaining ISO 14001 (Environmental Management System) certification</li> <li>Establishing an EHS management organization</li> <li>Reducing carbon emissions, including greenhouse gas reduction</li> <li>Expanding the production of eco-friendly products and the purchase of eco-friendly raw materials</li> <li>Establishing the Sustainability Management Committee</li> </ul>	EHS Strategy Team, Management RM Team
	Waste	Potential environmental pollution incidents due to waste	<ul style="list-style-type: none"> <li>Establishing waste management regulations</li> <li>Increasing the waste recycling rate</li> </ul>	EHS Strategy Team, Safety Environment Team
	Industrial Safety	Risks of workplace industrial accidents	<ul style="list-style-type: none"> <li>Obtaining ISO 45001 (Occupational Health and Safety Management System) certification</li> <li>Forming and operating an Occupational Safety and Health Committee</li> <li>Conducting joint safety/health inspections through the formation of a supplier council</li> </ul>	EHS Strategy Team, Safety Environment Team
	Human Rights	Issues such as workplace harassment, discrimination, and gender issues	<ul style="list-style-type: none"> <li>Preventing human rights issues through education on workplace harassment and gender discrimination</li> <li>Establishing human rights management policies and charters (including human rights impact assessments)</li> <li>Conducting ethical management education and operating reporting channels</li> </ul>	HR Strategy Team, Management RM Team
	Ethical/Compliance	Risks from inappropriate internal processes, personnel, or systems	<ul style="list-style-type: none"> <li>Operating a balanced Board of Directors through the Audit Committee</li> <li>Gaining credibility from all stakeholders through ethical management</li> <li>Designing and operating an internal accounting control system</li> </ul>	Management RM Team, Legal Team



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## Economic Performance

(Unit: KRW million)

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### Consolidated Financial Statements

(Unit: KRW million)

Category	2021	2022	2023
<b>Assets</b>			
I. Current Assets	604,837	591,670	587,429
Cash and Cash Equivalents	62,948	99,291	90,538
Trade Receivables	201,288	189,308	184,424
Other Receivables	8,844	1,156	51,873
Financial Assets at Fair Value Through Profit or Loss	-	-	-
Financial Assets Measured at Amortized Cost	8,036	8,281	8,766
Other Current Assets	45,785	25,432	16,801
Inventories	277,935	256,528	226,172
Derivatives Assets	-	2,820	-
Assets Held For Sale	-	8,854	8,854
II. Non-Current Assets	640,130	642,414	720,931
Long-Term Trade Receivables	15	10	-
Other Long-Term Receivables	1,073	1,332	749
Financial Assets at Fair Value Through Other Comprehensive Income	6,959	6,286	6,562
Financial Assets Measured at Amortized Cost	28	-	-
Financial Assets at Fair Value Through Profit or Loss	16	16	16
Derivatives Assets	1,293	-	-
Investments in Associates	39,980	32,403	51,592
Property, Plant, and Equipment (Tangible Assets)	508,697	551,691	597,437
Right-of-Use Assets	23,666	24,929	23,324
Intangible Assets	22,305	20,843	23,568
Investment Property	27,971	1,816	1,550
Other Non-Current Assets	1,885	1,960	13,741
Deferred Tax Assets	6,242	1,128	1,700
Net Defined Benefit Assets	-	-	693
Total Assets	1,244,966	1,234,084	1,308,361

Category	2021	2022	2023
<b>Liabilities</b>			
I. Current Liabilities	481,911	473,850	480,051
Trade Payables	153,458	123,372	119,657
Short-Term Borrowings	131,749	186,460	247,448
Current Portion of Long-Term Borrowings	81,081	47,485	14,111
Current Portion of Lease Liabilities	717	1,434	1,472
Other Payables and Liabilities	84,180	78,024	80,164
Derivative Liabilities	146	-	-
Accrued Corporate Taxes	16,798	19,839	4,139
Other Current Liabilities	13,782	17,235	13,061
II. Non-Current Liabilities	73,930	32,089	91,987
Long-Term Borrowings	46,512	7,631	69,656
Non-Current Lease Liabilities	5,644	7,349	6,549
Long-Term Other Payables and Liabilities	9,073	10,267	9,296
Defined Benefit Liabilities	4,427	1,451	1,295
Other Long-Term Employee Benefits Liabilities	2,569	2,475	2,194
Deferred Tax Liabilities	3,757	1,468	1,470
Other Non-Current Liabilities	1,948	1,447	1,114
Total Liabilities	555,841	505,938	572,038
<b>Equity</b>			
I. Equity Attributable to Owners of the Parent Company	692,906	728,117	736,399
Capital Stock	24,324	24,324	24,324
Capital Surplus	338,240	338,240	338,370
Other Components of Equity	(5,114)	(5,039)	(4,062)
Accumulated Other Comprehensive Income	2,659	4,304	4,819
Retained Earnings	332,797	366,289	372,948
II. Non-Controlling Interests	(3,781)	28	(76)
Total Equity	689,125	728,145	736,323
Total Liabilities and Equity	1,244,966	1,234,084	1,308,361



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Consolidated Statement of Comprehensive Income

(Unit: KRW million)

Category	2021	2022	2023
I. Revenue	1,570,090	2,176,437	1,793,736
II. Cost of Sales	1,412,201	1,954,291	1,617,670
III. Gross Profit	157,889	222,146	176,066
IV. Selling, General and Administrative Expenses	64,628	127,059	131,005
V. Operating Profit	93,260	95,087	45,060
VI. Other Income	8,309	36,115	29,317
VII. Other Expenses	19,666	35,343	25,968
VIII. Financial Income	6,036	7,930	8,101
IX. Financial Expenses	6,776	16,415	15,757
X. Share of Profit of Associates Accounted for Using the Equity Method	16,474	5,398	240
XI. Profit Before Tax	97,638	92,772	40,993
XII. Income Tax Expense	20,348	33,408	8,020
XIII. Net Profit for the Period	77,289	59,364	32,974
XIV. Profit Attributable to:			
1. Owners of the Parent Company	77,372	60,148	33,098
2. Non-Controlling Interests	(83)	(784)	(124)
XV. Other Comprehensive Income	(846)	1,605	591
1. Items that May be Reclassified Subsequently to Profit or Loss	2,524	2,297	323
1) Foreign Currency Differences	2,224	2,480	875
2) Share of Other Comprehensive Income of Associates	373	(256)	(552)
3) Gains (Losses) on Valuation of Derivatives	(73)	73	-

(Unit: KRW million)

Category	2021	2022	2023
2. Items that Will Not be Reclassified to Profit or Loss	(3,370)	(692)	268
1) Remeasurements of Defined Benefit Liabilities (Assets)	(3,557)	(177)	57
2) Gains (losses) on Valuation of Financial Assets Measured at Fair Value Through Other Comprehensive Income	187	(515)	212
3) Gains (Losses) on Valuation of Derivatives	-	-	-
XVI. Total Comprehensive Income	76,443	60,969	33,565
XVII. Total Comprehensive Income Attributable to:			
1. Owners of the Parent Company	76,913	61,616	33,70
2. Non-Controlling Interests	(470)	(646)	(104)
XVIII. Earnings Per Share			
1. Basic Earnings per Share (KRW)	2,302	1,249	686
2. Diluted Earnings per Share (KRW)	2,300	1,248	685

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Greenhouse Gas Emissions

Category	2021	2022	2023
<b>Direct Greenhouse Gas Emissions<sup>1)</sup></b>			(Unit: tCO <sub>2</sub> eq)
Ulsan Plant	108,621	101,368	104,479
Cheongyang Plant 1	7,261	8,413	7,836
Cheongyang Plant 2	4,566	4,045	3,598
Jeonju Plant	278	158	166
Daejeon Plant	126	133	247
Headquarters, etc.	232	166	201
<b>Subtotal</b>	<b>121,084</b>	<b>114,283</b>	<b>116,529</b>
<b>Indirect Greenhouse Gas Emissions<sup>1)</sup></b>			
Ulsan Plant	47,872	46,632	47,873
Cheongyang Plant 1	6,134	6,711	5,999
Cheongyang Plant 2	7,873	7,132	6,562
Jeonju Plant	2,784	1,480	1,236
Daejeon Plant	1,478	1,509	1,195
Headquarters, etc.	575	853	865
<b>Subtotal</b>	<b>66,716</b>	<b>64,319</b>	<b>63,736</b>
<b>Total</b>	<b>187,800</b>	<b>178,597</b>	<b>180,260</b>
<b>Greenhouse Gas Intensity<sup>2)</sup></b>	<b>16.82</b>	<b>10.43</b>	<b>12.74</b>

※ Reference: There are discrepancies between the total emissions by greenhouse gas type and the sum of emissions by plant.  
(This is due to rounding the emissions at the site level and then aggregating them at the company level)

1) The above values are based on the emissions reported for 2023 and will be reported according to the certified emissions for the 3rd phase of the Emissions Trading Scheme (2021-2025).

2) tCO<sub>2</sub>eq / sales (KRW 100 million)

Energy Usage

Category	2021	2022	2023
<b>Energy Usage</b>			(Unit: TJ)
Ulsan Plant	1,534	1,377	1,345
Cheongyang Plant 1	262	276	252
Cheongyang Plant 2	251	228	207
Jeonju Plant	64	34	28
Daejeon Plant	33	34	29
Headquarters, etc.	-	19	19
<b>Total</b>	<b>2,144</b>	<b>1,966</b>	<b>1,880</b>
Energy Intensity <sup>1)</sup>	0.19	0.11	0.13
<b>Renewable Energy Usage</b>			
Ulsan Plant	-	-	0.05
Cheongyang Plant 1	-	-	1.12
Cheongyang Plant 2	0.19	0.23	0.19
Jeonju Plant	-	-	-
Daejeon Plant	-	-	-
Headquarters, etc.	-	-	-
<b>Total</b>	<b>0.19</b>	<b>0.23</b>	<b>1.36</b>

1) (Unit: TJ / KRW 100 million)



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Water Usage

(Unit: ton)

Category	2021	2022	2023
Ulsan Plant	1,464,335	1,557,421	1,464,151
Cheongyang Plant 1 <sup>1)</sup>	58,066	73,485	76,121
Cheongyang Plant 2 <sup>1)</sup>	151,211	135,190	114,698
Jeonju Plant	27	2	18
Daejeon Plant	31,523	34,357	29,641
<b>Total</b>	<b>1,705,162</b>	<b>1,800,455</b>	<b>1,684,629</b>

1) For Cheongyang Plant 1 and 2, the usage amount includes groundwater

Water Reuse Ratio

(Unit: %)

Category	2021	2022	2023
Ulsan Plant	4.86	14.95	13.16
Cheongyang Plant 1	-	-	-
Cheongyang Plant 2	-	-	-
Jeonju Plant	-	-	-
Daejeon Plant	-	-	-

Waste Emissions

(Unit: ton)

Category	2021	2022	2023
Ulsan Plant	8,852	8,568	7,900
Cheongyang Plant 1	1,301	2,219	3,331
Cheongyang Plant 2	1,153	1,050	756
Jeonju Plant	27	28	14
Daejeon Plant	173	167	163
<b>Total</b>	<b>11,506</b>	<b>12,032</b>	<b>12,164</b>

Waste Recycling Amount

(Unit: ton)

Category	2021	2022	2023
Ulsan Plant	5,557	5,269	4,635
Cheongyang Plant 1	788	350	872
Cheongyang Plant 2	575	613	446
Jeonju Plant	-	-	-
Daejeon Plant	-	-	-
<b>Total</b>	<b>6,920</b>	<b>6,232</b>	<b>5,953</b>

Chemical Substance Emissions

(Unit: kg)

Category	2021	2022	2023
Ulsan Plant	13,267	12,056	13,321
Cheongyang Plant 1	6,847	6,281	2,261
Cheongyang Plant 2	2,438	2,197	3,979
Jeonju Plant	-	-	-
Daejeon Plant	473	487	396
<b>Total</b>	<b>23,025</b>	<b>21,021</b>	<b>19,957</b>

Hazardous Chemical Substance Usage

(Unit: ton)

Category	2021	2022	2023
Ulsan Plant	188,209	175,834	189,356
Cheongyang Plant 1	12,322	17,478	30,462
Cheongyang Plant 2	1,597	8,820	7,282
Jeonju Plant	776	383	288
Daejeon Plant	2,092	2,100	1,152
<b>Total</b>	<b>204,996</b>	<b>204,615</b>	<b>228,541</b>



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Air Pollutant Emissions

(Unit: kg)

Category	2021	2022	2023
<b>Sulfur Oxides (SOx)</b>			
Ulsan Plant	363	87	252
Cheongyang Plant 1	215	1,050	22
Cheongyang Plant 2	-	407	-
Jeonju Plant	-	-	-
Daejeon Plant	2,890	869	84
<b>Total</b>	<b>3,468</b>	<b>2,412</b>	<b>358</b>
<b>Nitrogen Oxides (NOx)</b>			
Ulsan Plant	11,172	14,382	13,194
Cheongyang Plant 1	14,237	3,320	4,921
Cheongyang Plant 2	4,073	4,702	5,525
Jeonju Plant	-	-	-
Daejeon Plant	68	246	400
<b>Total</b>	<b>29,549</b>	<b>22,650</b>	<b>24,040</b>
<b>Dust</b>			
Ulsan Plant	8,011	7,411	9,675
Cheongyang Plant 1	1,566	546	957
Cheongyang Plant 2	1,487	1,114	1,271
Jeonju Plant	4,514	2,324	2,007
Daejeon Plant	89	197	232
<b>Total</b>	<b>15,667</b>	<b>11,592</b>	<b>14,141</b>

Water Pollutant Emissions

(Unit: kg)

Category	2021	2022	2023
<b>Biochemical Oxygen Demand (BOD)</b>			
Ulsan Plant	1,732	963	1,673
Cheongyang Plant 1	4,572	934	77
Cheongyang Plant 2	24,665	1,915	1,023
Jeonju Plant	-	-	-
Daejeon Plant	170	479	198
<b>Total</b>	<b>31,139</b>	<b>4,290</b>	<b>2,970</b>
<b>Suspended Solids (SS)</b>			
Ulsan Plant	2,748	625	4,837
Cheongyang Plant 1	360	563	215
Cheongyang Plant 2	3,617	1,155	1,648
Jeonju Plant	-	-	-
Daejeon Plant	469	1,306	512
<b>Total</b>	<b>7,194</b>	<b>3,649</b>	<b>7,212</b>
<b>Total Organic Carbon (TOC)</b>			
Ulsan Plant	2,657	2,763	4,738
Cheongyang Plant 1	2,840*	238	16
Cheongyang Plant 2	10,713*	1,123*	458
Jeonju Plant	-	-	-
Daejeon Plant	151*	399*	160
<b>Total</b>	<b>16,361</b>	<b>4,523</b>	<b>5,372</b>

\* Basis for TOC Calculation: Applied TOC = 1:1.8 ratio from the 2022 emission data of Cheongyang Plants 1 and 2 and Daejeon Plant  
Based on the Korea Environment Institute's study "Research on Setting Standards for TOC Emissions in Industrial Wastewater."



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# ESG Facts & Figures

## Economic Performance

### Drum Usage

(Unit: EA)

Category	2021	2022	2023
Ulsan Plant	323,538	277,329	242,244
Cheongyang Plant 1	188,305	183,816	184,922
Cheongyang Plant 2	274,798	258,720	237,949
Jeonju Plant	-	-	-
Daejeon Plant	63,433	70,216	46,958
<b>Total</b>	<b>850,074</b>	<b>790,081</b>	<b>712,073</b>

### Recycled Drum Usage

(Unit: EA)

Category	2021	2022	2023
Ulsan Plant	165,854	159,642	143,141
Cheongyang Plant 1	54,940	42,392	50,731
Cheongyang Plant 2	152,109	165,818	193,979
Jeonju Plant	-	-	-
Daejeon Plant	58,644	61,105	41,779
<b>Total</b>	<b>431,547</b>	<b>428,957</b>	<b>429,630</b>

### Sales Performance of Eco-Friendly Products

(Unit: KRW 100 million, %)

Category	2021	2022	2023
Sales of Eco-Friendly Products	2,890	5,101	3,844
Percentage of Total Sales (%)	25.9%	29.8%	27.2%

\* Sales for 2021 are based on public disclosure data, reflecting the performance of Aekyung Petrochemical from January to December 2021, and the performance of AK ChemTech from November to December 2021

### Purchases of Eco-Friendly Certified Products

(Unit: KRW thousand)

Category	2021	2022	2023
Eco-Friendly Certified Products	-	4,545	5,225

### Environmental Fines and Penalties

(Unit: cases, KRW thousand)

Category	2022	2023	Remarks
Number of Violations	4	-	
Fine or Penalty Amount	10,320	-	

### Patent Status

(Unit: cases)

Team	Patent Registrations		Application		PCT
	Domestic	Overseas	Domestic	Overseas	
Plasticizers	22	1	11	2	6
Surfactant Materials	28	-	2	-	1
PU Solutions	8	-	1	-	-
C&A Solutions	35	6	5	-	-
Resin Solutions	8	-	1	-	-
Advanced Materials	11	-	-	-	3
Bio	4	-	1	-	1
Hard Carbon	7	3	1	3	3
<b>Total</b>	<b>123</b>	<b>10</b>	<b>22</b>	<b>5</b>	<b>14</b>
		<b>133</b>		<b>27</b>	<b>14</b>



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## Employee Status

(Unit: persons)

Category	2021	2022	2023
Total Number of Employees*	683	709	750

\* This report tallies the number of employees at the end of each year through the internal HR management system.

## Detailed Employee Status

(Unit: persons)

Category	2021	2022	2023
Total Number of Employees	683	709	750
By Age			
Under 30	152	173	176
30 to under 50	408	394	436
50 or Older	123	142	138
By Employment Type*			
Regular Employees			
Male	585	586	610
Female	68	94	110
Regular Employee Subtotal	653	680	720
Non-Regular Employees			
Male	24	25	26
Female	6	4	4
Non-Regular Employee Subtotal	30	29	30
Total	683	709	750

\* Regular Employees: (Directly hired by Aekyung Chemical) Employees with guaranteed job stability, Non-Regular Employees: (Directly hired by Aekyung Chemical) Employees with fixed-term contracts

## Labor Union Membership Status

(Unit: persons)

Category	2021	2022	2023
Number of Union Members	123	141	139
Total Number of Employees	683	709	750
Membership Rate	18%	20%	19%
Employee Diversity Status	100%	100%	100%

## Employee Diversity Status

(Unit: persons)

Category	2021	2022	2023	
Gender Balance	Total Female Employees	74	98	114
	Female Executives	1	1	1
	Female Managers	5	9	12
Employment of People with Disabilities	Total Employees	14	15	15
	Total Employees	24	24	21
Employment of National Veterans	Total Employees	1	4	7
	China	0	2	2
Employment of Foreign Nationals	Vietnam	0	0	2
	Thailand	0	0	1
Employment of Foreign Nationals	Malaysia	0	1	1
	Kazakhstan	0	0	1
	Philippines	1	1	0
Total Number of Employees	683	709	750	

## New Employment Status

(Unit: persons)

Category	2021	2022년	2023
Total Number of Hires	73	128	128
Female Ratio	57	91	26
Male Ratio	16	37	102

## Turnover Status

(Unit: persons)

Category	2021	2022	2023
Average Tenure of Employees	11.5	11.3	10.8
Number of Turnover Employees	75	78	63
Total Number of Employees	683	709	750
Turnover Rate*	8.5%	11.0%	8.4%

\* Turnover Rate: (Voluntary) Number of employees who left / Total number of employees



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### Parental Leave Status

(Unit: persons)

Category	2021	2022	2023
Eligible for Parental Leave <sup>1)</sup>	185	189	188
Employees Who Took Parental Leave <sup>2)</sup>	6	6	8
Employees Who Returned from Parental Leave <sup>3)</sup>	5	6	7
Parental Leave Return Rate	83%	100%	88%
Employees Who Continued Working for 12 Months After Return <sup>4)</sup>	4	4	6
Rate of Employees Continuing Work for 12 Months After Return	80%	67%	86%

1) Number of employees eligible for parental leave: Employees eligible for parental leave according to relevant laws,

2) Number of employees using parental leave: Employees who started parental leave in the given year

3) Number of employees returning from parental leave in 2023: Includes those who have not indicated a desire not to return to the company by the end of May 2024. 4) Number of employees who continued working for 12 months after returning in 2023 Includes those who have not indicated a desire to resign by the end of May 2024.

### Training Expenses Status

(Unit: persons, KRW thousand, hours)

Category	2021	2022	2023
Total Number of Employees	683	709	750
Total Training Expenses	224,707	255,439	251,299
Training Expense per Employee	329	360	355
Average Training Hours per Employee	40	48	49

### Employee Welfare Expenses Status

(Unit: KRW thousand)

Category	2021	2022	2023
Welfare Expenses	4,697,933	7,541,317	8,074,755
Sales Revenue	1,116,312,988	1,712,779,790	1,414,480,485
Percentage	0.4%	0.4%	0.6%

### Retirement Pension Status

(Unit: persons, KRW thousand)

Category	2021	2022	2023
Management of Retirement Pension (Defined Benefit Plan)	Number of Subscribers	492	623
	Total Subscription Amount (Estimated)	34,135,599	36,309,081
			653
			39,695,158

### Industrial Accidents Status

Category	2021	2022	2023
<b>Ulsan Plant</b>			
Accident Rate	0.68	0	0.57
Lost Workday Injury Rate	0.51	0	0.43
<b>Cheongyang Plant 1</b>			
Accident Rate	0	0.65	0.64
Lost Workday Injury Rate	0	0.49	0.48
<b>Cheongyang Plant 2</b>			
Accident Rate	0	0	0
Lost Workday Injury Rate	0	0	0
<b>Partner Companies</b>			
Accident Rate	-	-	0
Lost Workday Injury Rate	-	-	0

※ Calculation Method for Accident Rate: [Number of casualties (accident casualties + disease casualties) / Number of workers covered by industrial accident insurance] x 100 (Korea Occupational Safety and Health Agency)

Calculation Method for Lost-Time Injury Rate (LTIR): Total number of lost time injuries / Total working hours x 200,000 (Total working hours: Number of workers at the workplace x 10 hours x 22 days/month x 12 months)

※ Management of Partner Industrial Accident Data: Initiated from 2023.

### 2023 Safety and Health Education Status

(Unit: persons)

Category	Education Title	Frequency	Subtotal	Remarks	
Job Training	Management Responsibility	2 years	2		
	Safety Manager	2 years	3		
	Health Manager	2 years	-	Outsourced	
	Hazardous Chemicals Safety Education	Management	2 years	8	
		Handlers	2 years	134	
	Workers	1 years	134		
Employer Education	Supervisors	1 years	150		
	General Workers	Regular Education	Quarterly	618	
	New Employees	General Education	Upon hiring	111	
Special Education		Upon hiring	81		



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# ESG Facts & Figures

## Governance Performance

### Board Operations

Category	2021	2022	2023	
<b>Board Operations</b>	Number of Board Meetings	14	12	18
	Attendance Rate (Average)	94.3%	92.7%	90.97%
	Total Agenda Items	51	42	45
	Resolutions Passed (Total)	49	37	31
	Reports	2	5	14

### Major Resolutions of the Board in 2023

Meeting No.	Date	Agenda and Report Details	Attendance of Independent Directors (Full Quorum)
1	Jan.30	(Pre-Audit) Approval of Separate and Consolidated Financial Statements and Business Report Approval of Cash Dividend for Fiscal Year 2022 Approval of the 2023 Industrial Safety and Health Plan	3/3
2	Feb.17	Convocation of the 11th Regular General Meeting of Shareholders Implementation of Electronic Voting System Report on the Operation Status of the Internal Accounting Control System by the Internal Accounting Manage	2/3
3	Mar.20	Approval of Separate and Consolidated Financial Statements and Business Report Approval of Profit Distribution Report on the Evaluation of the Internal Accounting Control System Transactions with Directors and the Company (AK VINA Limit Increase) for 2023	3/3
4	May. 12	Approval of separate and consolidated financial statements for the first quarter of 2023 Cancellation of Stock Options Approval of Transactions with Directors and the Company (Debt Guarantee Decision for AK VINA) for 2023 Report on the Increase of Limit for Transactions with Directors and the Company (AK VINA) for 2023 Approval of Concurrent Positions of Directors in Other Companies	2/3
5	May.19	Decision on the Method of Granting Stock Options	3/3
6	May. 24	Decision on the Method of Granting Stock Options	3/3

Meeting No.	Date	Agenda and Report Details	Attendance of Independent Directors (Full Quorum)
7	May.30	Decision on the Method of Granting Stock Options	3/3
8	Jun. 14	Extension of Payment Guarantee for Aekyung (Ningbo) Chemical Co., Ltd. (CITI Bank Shanghai Branch) Extension of Payment Guarantee for Aekyung (Ningbo) Chemical Co., Ltd. (Hana Bank Shanghai Branch) Execution of Payment Guarantee for Aekyung (Ningbo) Chemical Co., Ltd. (Kookmin Bank Huadong District) Report on Increase of Limit for Transactions with Directors and the Company (Aekyung (Ningbo) Chemical Co., Ltd.) for 2023	3/3
9	Jun. 26	Decision on the Method of Granting Stock Options	3/3
10	Jun. 30	Decision on the Method of Granting Stock Options	3/3
11	Jul. 5	Decision on the Method of Granting Stock Options	3/3
12	Jul. 21	Approval of Abolition of the Shanghai Representative Office (Branch) Contract for Facility Support Personnel Service (Aekyung Jungbu Country Club)	3/3
13	Aug. 11	Approval of the Separate and Consolidated Financial Statements for H1 2023 Report on Non-Audit Services Contract with External Auditor Report on Progress of the 2023 Industrial Safety and Health Plan Report on the Status of ESG Management Activities for H1 2023	3/3
14	Sep. 5	Approval of Changes in Debt Guarantee Period for AK VINA Approval of Investment in AK VINA Transactions with Directors and the Company (AK VINA Limit Increase) for 023	3/3
15	Sep. 27	Approval of Transactions Between Directors and the Company (Integrated System Construction) for 2023	3/3
16	Nov. 14	Approval of the Separate and Consolidated Financial Statements for Q3 2023 Report on Results of 2023 Fair Trade Compliance Program (CP) Inspection Report on 2023 KCGS ESG Rating Evaluation Results Report on T-Project Progress	3/3
17	Nov. 24	Approval of Fund Lending to Related Parties (Suwon Station Development Co., Ltd.) Report on Additional Transactions with Related Parties and Increase in Transaction Limit	3/3
18	Dec. 15	Approval of Shareholder Registry Reference Date Approval of Dividend Record Date Approval of Transactions with Directors and the Company for 2024 Report on External Auditor Reappointment Application Results and Audit Fee Contract	3/3



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Major Resolutions of the Internal Transactions Committee in 2023

Meeting No.	Date	Agenda Details	Transactions Between Directors and the Company in 2022
1	Jan. 3	Approval of Transactions with Directors and the Company in 2023 (AK VINA Limit Increase)	4/4
2	Mar. 2	Approval of Transactions with Directors and the Company in 2023 (Debt Guarantee for AK VINA)	4/4
3	May. 12	Approval of Transactions with Directors and the Company in 2023 (Transaction Amount Limit Increase for AK VINA) Internal Transactions Execution Details for Q1 2023	3/4
4	Jun. 14	Approval of Transactions with Directors and the Company in 2023 (Approval of Debt Guarantee Change for Aekyung (Ningbo) Chemical Co., Ltd.) Approval of Transactions with Directors and the Company in 2023 (Transaction Amount Limit Increase for Aekyung (Ningbo) Chemical Co., Ltd.)	4/4
5	Jul. 21	Contract for Facility Support Personnel Service (Aekyung Jungbu Country Club)	
6	Aug. 11	Internal Transactions Execution Details for H1 2023	
7	Sep. 5	Approval of Change in Debt Guarantee Period for AK VINA Approval of Investment in AK VINA	4/4
		Approval of Transactions with Directors and the Company in 2023 (Transaction Amount Limit Increase for AK VINA)	4/4
8	Sep. 27	Approval of Transactions Between Directors and the Company (Integrated System Construction) for 2023	4/4
9	Nov. 14	Internal Transactions Execution Details for Q3 2023	4/4
10	Nov. 24	Approval of Fund Lending to Related Parties (Suwon Station Development Co., Ltd.) Report on Additional Transactions and Transaction Amount Limit Increase with Related Parties (Suwon Station Development Co., Ltd.)	4/4
11	Dec. 15	Approval of Transactions with Directors and the Company for 2024	4/4

Major Resolutions of the Audit Committee in 2023

Meeting No.	Date	Agenda Details	Attendance of Audit Committee Directors (Full Quorum)
1	Jan. 3	(Pre-Audit) Approval of Financial Statements and Business Report Approval of Appointment of Head of Internal Audit Department (Internal Audit Institution) Approval of Annual Internal Control Activity Plan	3/3
2	Feb. 15	Report on the Operation Status of the Internal Accounting Control System by the Internal Accounting Manage	2/3
3	Mar. 2	(Post-Audit) Approval of Separate and Consolidated Financial Statements and Business Report for FY2022 (11th Year) Audit Committee's Audit Report Audit Committee's Evaluation of the Operation Status of the Internal Accounting Control System	3/3
4	May. 12	Report on Board Approval of FY2022 Financial Statements and Exchange of Audit Opinions with External Auditors	2/3
5	Aug. 11	Approval of Non-Audit Services Contract with External Auditors Report on Board Approval of H1 2023 Separate and Consolidated Financial Statements and Exchange of Audit Opinions with External Auditors	3/3
6	Nov. 14	Report on Board Approval of Q3 2023 Separate and Consolidated Financial Statements and Exchange of Audit Opinions with External Auditors	3/3
7	Nov. 23	Application for Reappointment of External Auditors	3/3
8	Dec. 15	Report on External Auditor Reappointment Application Results and Audit Fee Contract	3/3

Information Protection Data

Category	Unit	2021	2022	2023
Total Information Leak Incidents	cases	0	0	0
Customer Information Leak Incidents	cases	0	0	0
- Fines	KRW	0	0	0
- Penalties	KRW	0	0	0
Privacy Protection Training Completion Rate	%	100	100	100



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# GRI Index

Aekyung Chemical Co., Ltd. (Aekyung Chemical) published its sustainability report for the period from January 1, 2023, to December 31, 2023, in accordance with the GRI Standard 2021. The report adheres to the nine requirements of GRI 1 (2021). Since the Chemicals Sector Standard has not been released, no separate Sector Standard was applied. For major issues during the reporting period of 2023, please refer to the 'Materiality Assessment' section of the report.

## General Disclosures

GRI 2: General Disclosures 2021		Reporting Location	Remarks
<b>Organization and Reporting Practices</b>			
2-1	Organization Information	5, 14~15	
2-2	Reporting Scope	2, 5, 14~15	
2-3	Reporting Period, Frequency, and Contact Point	2	
2-4	Information Revisions	2	If there are differences in the previous year's data and some scope, it is specified in the report through annotations, etc.
2-5	External Verification Status	98-100	
<b>Activities and Workforce of the Organization</b>			
2-6	Key Activities and Supply Chain, Products, and Services	9~13	
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2-9	Governance	75~76	
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2-12	Role of the Highest Governance Body in Identifying and Managing Economic, Environmental, and Social Impacts	75~76	
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2-14	Role of the Highest Governance Body in Sustainability Reporting	76-77	
2-15	Conflicts of Interest	75	

GRI 2: General Disclosures 2021		Reporting Location	Remarks
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2-17	Collective Knowledge of the Highest Governance Body	76	
2-18	Evaluation of the Performance of the Highest Governance Body	76	
2-19	Remuneration Policies	76	
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2-21	Total Annual Compensation Ratio	Confidential	
<b>Strategy</b>			
2-22	Statement on Sustainable Growth Strategy	4	
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## Topic Standards

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201-3	Obligations under Defined Benefit Pension Plans	89	
<b>GRI 202: Market Presence</b>			
202-1	Ratio of Entry-Level Wage to Local Minimum Wage at Business Locations	55	
<b>GRI 203: Indirect Economic Impacts</b>			
203-1	Infrastructure Investments and Services Supported for Public Benefit	60-63	
<b>GRI 205: Anti-corruption</b>			
205-1	Risk Assessment of Corruption at Business Sites	78	
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303-2	Water Discharge-related Impacts Management	41	
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GRI 200, 300, 400: Topic Standards Disclosure		Reporting Location	Remarks
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## Topic Standards

GRI 200, 300, 400: Topic Standards Disclosure		Reporting Location	Remarks
403-4	Worker Participation, Consultation, and Communication on Industrial Health and Safety	56, 58	
403-5	Worker Training on Occupational Health and Safety	40, 57, 89	
403-6	Promotion of Worker Health	54	
403-7	Prevention and Mitigation of Occupational Health and Safety Impacts Directly Linked to Business Relationships	56-59	
403-8	Workers Covered by an Occupational Health and Safety Management System	56	
403-9	Work-Related Injuries	89	
403-10	Work-Related Illnesses	89	
<b>GRI 404: Training and Education</b>			
404-1	Average Training Hours Per Employee	89	
404-2	Programs for Skills Management and Lifelong Learning to Support Continued Employability and Career Development	49-51	
404-3	Percentage of Employees Receiving Regular Performance and Career Development Reviews	47	
<b>GRI 405: Diversity and Equal Opportunity</b>			
405-1	Diversity of Governance Bodies and Employees	55, 88	
405-2	Ratio of Basic Salary and Remuneration of Women to Men	55	
<b>GRI 406: Non-discrimination</b>			
406-1	Incidents of Discrimination and Corrective Actions Taken Not applicable	Not applicable	
<b>GRI 416: Customer Health and Safety</b>			
416-1	Health and Safety Impact Assessments of Product and Service Categories	39	
<b>GRI 418: Customer Information Protection</b>			
418-1	Substantiated Complaints Concerning Breaches of Customer Privacy and Losses of Customer Data	70, 91	

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# SASB Index

Topic	Category	Code	Response
<b>Greenhouse Gas Emissions</b>			
① Global Total Scope 1 Emissions	Quantitative	RT-CH-110a.1	84, 97
② Proportion of Scope 1 Emissions Subject to Emission Restrictions (e.g., K-ETS)	Quantitative	RT-CH-110a.1	84
Scope 1 Emissions, Emission Reduction Targets, Short and Long-Term Strategies and Plans	Qualitative	RT-CH-110a.2	27-28, 84
<b>Air Pollutant Emissions</b>			
① NOx Emissions	Quantitative	RT-CH-120a.1	86
② SOx Emissions	Quantitative	RT-CH-120a.1	86
③ VOCs Emissions	Quantitative	RT-CH-120a.1	3,342kg
④ HAPs Emissions	Quantitative	RT-CH-120a.1	9,610kg
<b>Energy Management</b>			
① Total Energy Usage	Quantitative	RT-CH-130a.1	84
② Grid Electricity Usage Ratio	Quantitative	RT-CH-130a.1	-
③ Renewable Energy Usage Ratio	Quantitative	RT-CH-130a.1	0.07%
④ Total Self-Generated Energy	Quantitative	RT-CH-130a.1	84
<b>Water Management</b>			
① Total Water Withdrawal in Areas with High or Extremely High Water Stress	Quantitative	RT-CH-140a.1	220,460 ton
② Proportion of Total Water Consumption in Areas with High or Extremely High Water Stress	Quantitative	RT-CH-140a.1	220,460 ton
Number of Violations Related to Water Permits, Standards, and Regulations	Quantitative	RT-CH-140a.2	0건
Description of Water Management Risks and Mitigation Strategies/Activities	Qualitative	RT-CH-140a.3	41-42

\* Water Management ①, ②: According to the World Resources Institute (WRI) standards, Aekyung Chemical's facilities located in high water stress areas are Cheongyang Plants 1 and 2, and the Daejeon Plant.

Topic	Category	Code	Response
<b>Hazardous Waste Management</b>			
Amount of Hazardous Waste Generated	Quantitative	RT-CH-150a.1	85
Recycling Rate	Quantitative	RT-CH-150a.1	85
<b>Community Relations</b>			
Processes to Manage Risks and Opportunities Related to Community Stakeholders	Qualitative	RT-CH-150a.1	60-63
<b>Occupational Health and Safety</b>			
① Total Recordable Injury Rate	Quantitative	RT-CH-320a.1	89
② Fatality Rate Among Employees and Contractors	Quantitative	RT-CH-320a.1	0%
Efforts to Assess, Monitor, and Reduce Long-Term/Chronic Health Risks	Qualitative	RT-CH-320a.2	58
<b>Product Design for Use-Phase Efficiency</b>			
Revenue from Products Designed for Resource Efficiency in the Use Phase	Quantitative	RT-CH-410a.1	30-36



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Topic	Category	Code	Response
<b>Chemical Safety and Environmental Responsibility</b>			
① Percentage of products that include components classified as Category 1 and 2 (Category 1 and 2 Health and Environmental Hazardous Substances) according to the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)	Quantitative	RT-CH-410b.1	-
② Proportion of Products Undergoing Hazard Assessment	Quantitative	RT-CH-410b.1	-
① Management of Chemicals of Concern	Qualitative	RT-CH-410b.2	39~40
② Discussion of Strategies for Developing Alternatives with Lower Human and Environmental Impact	Qualitative	RT-CH-410b.2	24~36
<b>Genetically Modified Organisms (GMOs)</b>			
Percentage of Revenue from Products That Include Genetically Modified Organisms (GMOs)		RT-CH-410c.1	-

Topic	Category	Code	Response
<b>Management of Legal and Regulatory Environment</b>			
Discussion on the Company's Position Regarding Government Regulations or Policies Addressing Environmental and Social Factors Affecting the Industry	Qualitative	RT-CH-530a.1	41, 66~69, 78~80
<b>Process Safety, Emergency Preparedness, and Response</b>			
① Process Safety Incidents Count (PSIC)	Quantitative	RT-CH-540a.1	89
② Process Safety Total Incident Rate (PSTIR)	Quantitative	RT-CH-540a.1	89
③ Process Safety Incident Severity Rate (PSISR)	Quantitative	RT-CH-540a.1	89
Number of Transportation Accidents	Quantitative	RT-CH-540a.2	Zero Cases



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# UN Sustainable Development Goals (UN SDGs) Activities

The UN Sustainable Development Goals (SDGs) are global objectives set by the international community to be achieved by 2030 for sustainable development. Aekyung Chemical is participating in the implementation of six key goals.

Sustainable Development Goals	Key Activities	Report Page
 <b>Gender Equality</b>	Talent Acquisition and Development > Employee Diversity	55
 <b>Affordable and Clean Energy</b>	Energy Management	29
 <b>Decent Work and Economic Growth</b>	Occupational Safety and Health Collaborative Growth with Partners	56~59, 64~65
 <b>Industry, Innovation and Infrastructure</b>	Increased Environmental Investment	23
 <b>Reduced Inequality</b>	Talent Acquisition and Development > Employee Diversity	55
 <b>Sustainable Cities and Communities</b>	Hazardous Chemicals and Waste Management Social Contribution Programs > Love Facility Environment Improvement	37~40, 60~63

Sustainable Development Goals	Key Activities	Report Page
 <b>Responsible Consumption and Production</b>	Hazardous Chemicals and Waste Management Sustainable Resource Recovery System	37~40, 34~36
 <b>Climate Action</b>	Greenhouse Gas Emission Management Climate Change Response Strategy	27~28
 <b>Life Below Water</b>	Water Resource Management > Minimizing Water Pollution	41
 <b>Life on Land</b>	Social Contribution Programs > Supporting the "Save Endangered Species in Cheongyang" Project	42
 <b>Peace, Justice, and Strong Institutions</b>	Protection of Shareholder Rights	73~74
 <b>Partnerships for the Goals</b>	Practicing Environmental Management (Embedding EHS Management, Enhancing Environmental Awareness)	21~26

# Awards and Association Activities

## Awards

Award Name	Award Date	Issuing Organization
Commendation on Firefighting Day	November 9, 2023	National Fire Agency
Commendation for Industrial Health Merits	November 22, 2023	Korea Public Health Association

## Association Activities

Korea Petrochemical Industry Association	Korea Environmental Engineers Association	Korea Mech.Const.Constructors Association
Korean Industrial Health Association	Korea Petrochemical Industry Association	Ulsan Chamber of Commerce and Industry
Korea Industrial Safety Association	Korea Electrical Engineers Association	Ulsan Environmental Engineers Association
Korean Energy Management Engineering Association	Process Safety Council	Ulsan Logistics Council
Korea International Trade Association (KITA)	Korea Polyurethane Industry Association	Daejeon Chungnam Environmental Conservation Association
Korea Chemicals Management Association	Korean Polyurethane Association	
Korea Fire Safety Institute	Korea Bio-energy Association	



# Greenhouse Gas Emissions Verification Statement



## Independent Verification Statement



### Aekyung Chemical Co., Ltd.

The Korea Management Register (KMR) has performed the verification of Aekyung Chemical's 2023 greenhouse gas emissions (Scope 1 and 2).

### Verification Scope

Verification includes all business sites and emission facilities under Aekyung Chemical's operational control

### Verification Criteria

- ISO 14064-3:2019
- Guidelines for Reporting and Certification of Emissions in the Emissions Trading Scheme
- IPCC Guidelines for National Greenhouse Gas Inventories (2006)
- Verification Guidelines for the Operation of the Emissions Trading Scheme
- Guidelines for the Management of Greenhouse Gas Targets

### Verification Procedure

Verification was conducted using a risk-based approach and data evaluation through on-site inspections. Data and factors applied in the calculation of greenhouse gas emissions were assessed for appropriateness based on objective evidence. The verification team conducted a reasonable verification of greenhouse gas emissions during the reporting period in accordance with the verification guidelines.

### Verification Independence

KMR has no conflicts of interest with the verified entity and conducts verifications without bias. Verification conclusions were drawn independently and objectively based on verification criteria, with the entire verification process reviewed through internal deliberations.

### Verification Independence

The verification team verified the relevant reports, information, and data provided by the entity using sampling or a complete enumeration method. Inherent limitations exist, and there may be differences in the interpretation of appropriateness. Despite efforts to conduct thorough verification in line with verification criteria, potential errors, omissions, or misstatements that were not detected may be present.

### Verification Opinion

- The greenhouse gas emissions verification was conducted to meet a reasonable assurance level based on verification criteria.
- No significant errors were found in the emission calculations during the verification process, and the related activity data and evidence were appropriately managed and calculated. We provide a final "reasonable" opinion.
- Materiality: Criteria met for less than 5%
- Emission Amount (Summary)

Greenhouse Gas Emissions	Direct Emissions (Scope 1)	Indirect Emissions (Scope 2)	Total(tCO <sub>2</sub> -eq)
2023	116,529	63,736	180,260

※ Reference: Differences may exist between the sum of emissions by greenhouse gas type and the total emissions per facility due to rounding down at the facility level and summing at the company level.

### Overall Opinion

Through verification, it was confirmed that the emissions from major emission facilities were calculated and reported without omissions.

※ The company is responsible for preparing verification materials in accordance with the "Guidelines for Reporting and Certification of Emissions in the Emissions Trading Scheme" (Ministry of Environment Notice No. 2021-278). KMR's responsibility is limited to the verification contract parties as per the agreed contractual conditions, and KMR is not responsible for other decisions such as investments based on this verification statement.

※ The company must comply with the use of certification marks and logo marks as agreed with KMR.

April 22, 2024

Eun-Ju Hwang, CEO of Korea Management Registrar (KMR)



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# Independent Assurance Report

## Verification Statement on The Sustainability Report for Aekyung Chemical Co., Ltd.

### Dear Stakeholders of Aekyung Chemical Co., Ltd.

Korean Foundation for Quality (further 'KFQ') has been requested by Aekyung Chemical Co., Ltd.(hereafter 'Aekyung Chemical') to conduct an independent verification on the 「2023 Aekyung Chemical Sustainability Report」 (hereafter 'the Report'). KFQ has responsibility to provide an independent verification opinion against the criteria and scope of verification as specified below. Aekyung Chemical has sole responsibility for the preparation of the Report.

### Verification Criteria and Scope

- Verification Criteria : AA1000AS(v3) and AA1000AP (2018)
- Verification Type: Type 1 [Verification of compliance of four reporting principles]
- Verification Level : Moderate [Verification based on limited evidence collected]
- Verification boundary : The reporting boundaries of Aekyung Chemical Co., Ltd. as stated in the Report (Headquarters and domestic business sites)
- Verification Scope : Compliance with the 4 reporting principles(Inclusivity, Materiality, Responsiveness, Impact) according to AA1000AP and the GRI Standards 2021 reporting requirements

### ※ GRI Standards (2021) Reporting Principles

- Universal Standards : Reporting in accordance with GRI Standards (2021), compliance with the following requirements

Requirements	Compliance	Requirements	Compliance
1. Reporting principles	○	6. Provide reasons for omission	○
2. General Disclosures	○	7. Publish a GRI content index	○
3. Determine material topics	○	8. Provide a statement of use	○
4. Report the disclosures in GRI 3: Material Topics 2021	○	9. Notify GRI	○
5. Report disclosures from the GRI Topic Standards for each material topic	○	-	-

- Topic Standards

Requirements	GRI Standards/Topic Disclosure
Reporting material issues according to the GRI Topic Standards	· GRI 301 : Materials · GRI 302 : Energy · GRI 303 : Water and Effluents · GRI 305 : Emissions · GRI 306 : Waste · GRI 403 : Occupational Health and Safety

### Methodology

To assess the reliability of the sustainability performance in the Report against the aforementioned criteria, the audit team reviewed sustainability-related processes, systems, internal control procedures, and available performance data. The documentation the audit team reviewed by the audit team during the verification includes:

- Non-financial information e.g., data provided by Aekyung Chemical, disclosed Business Reports, and information obtained from media and/or the internet; and
- Financial information i.e., data disclosed in the electronic disclosure system of the Financial Supervisory Service (dart.fss.or.kr) and data posted on the homepage were used, but these contents are not included in the scope of verification.

The assessment was performed through document review and interviews with the responsible personnel. The validity of the materiality assessment process in the Report and the material issues selection considering stakeholders, data collecting & management, and validity of the report preparation procedures as well as the description in the Report were assessed, but external stakeholder interviews were not conducted. Afterwards, it was confirmed that any errors, inappropriate information, and misstatement identified during the assessment were appropriately revised before publishing the Report.

### Competency and independence

The audit team was consisted in accordance with KFQ's internal regulations. KFQ has no conflict of interest to the National Pension Service business that could threaten the impartiality of verification, aside from providing third-party verification services.

### Limitations

The completeness and responsiveness of sustainability performance represented in the Report have inherent limitations due to its nature and the methodology used to determine, calculate and estimate its performance. In accordance with the terms of the contract, we only assessed the information and evidence provided by the Aekyung Chemical. Also, raw data of the greenhouse gas emissions data reported in this report were not included in the scope of this verification.



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# Independent Assurance Report

## Findings and Conclusions

As a result of the verification, the Report was found to be prepared in accordance with the requirements for 'report in accordance with GRI standard 2021' and the audit team found reasonable objectives to guarantee the AA1000AP (2018) and AA1000AS (V3) Type 1 assurance level. We also found no significant errors or inadequacies in the Report regarding compliance with reporting principles.

### · Inclusivity

Aekyung Chemical defined the four stakeholder groups (Employees, Customers, Partner Companies, Local Communities) and is hearing their opinions through the communication channels considering the characteristics of each group for effective communication. The audit team could not find any major stakeholders that were omitted during this process and was able to confirm that Aekyung Chemical is making efforts to reflect the opinions of stakeholders collected in its management strategy.

### · Materiality

Aekyung Chemical formed a pool of 21 issues through analysis of global standards and evaluation criteria, investigation of sustainable management issues of similar industries and competitors, internal company data, and media research. And conducted a materiality assessment of environmental and social impacts and financial impacts on each issues, and selected a final 6 key material issues. During this process, they reviewed the opinions of stakeholder groups through surveys to enhance the justification for selecting these material issues. The audit team confirmed that the identified material issues resulting from the materiality assessment were fully described in the Report without any omission.

### · Responsiveness

Aekyung Chemical is committed to responding promptly to the needs and key interests of stakeholders. Nothing came to our attention to suggest that its responses and performance are inappropriately described in the Report.

### · Impact

Aekyung Chemical identifies and monitors the impact of material issues related to stakeholders throughout its management activities and reports them in the Report as much as possible. Nothing came to our attention to suggest that it does not properly assess and report impacts relating to material issues.

## Recommendation for improvement

· We hope that the newly established Sustainability Management Committee in the reporting year is to be as central role in leading Aekyung Chemical's ESG management activities, and that major decision-making matters and achievements related to ESG and sustainable management is continue to be disclosed through annual reporting.

· We also hope that by interpreting and analyzing ESG-related data more diversely and sharing its performance with stakeholders, stakeholders will have a better and deeper understanding of Aekyung Chemical's ESG management performance.

June, 2024  
Seoul, Korea  
Ji Young Song, CEO  
Korean Foundation for Quality (KFQ)



**AEKYUNG CHEMICAL CO.,LTD.**