

# KUKDO SUSTAINABILITY REPORT 2024



# About this Report

**About this Report** Kukdo Chemical is publishing its inaugural Sustainability Report to enhance transparency in the disclosure of Environmental, Social, and Governance (ESG) performance and to actively engage stakeholders. This 2024 Sustainability Report presents the Company's sustainability strategy, targets, implementation efforts, and key performance results.

**Reporting Principles and Standards** This report has been prepared in accordance with the GRI Standards (2021). Financial information is presented on a consolidated basis in accordance with Korean International Financial Reporting Standards (K-IFRS).

**Reporting Period** The reporting period covers January 1, 2024 to December 31, 2024. Selected qualitative updates include activities through the first half of 2025. To provide trend analysis, data for the past three fiscal years are also disclosed.

**Reporting Scope** This report covers the sustainability performance of Kukdo Chemical's business sites (Kukdo Chemical Co., Ltd. Head Office, Iksan Site, Busan Site, Sihwa Site and Hwaseong Site) and consolidated subsidiaries (Kukdo Finechem, SEOGYOHEUNGUP, Jungdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical (Ningbo) Co., Ltd., Kukdo Chemical India Pvt. Ltd., Kukdo Europe GmbH, and Kukdo Chemical America Inc.), as well as Nichido Chemical. Any deviations in scope are separately indicated.

**Independent Assurance** To strengthen the reliability of disclosures, this report received independent assurance from British Standards Institution (BSI). The assurance statement is included in the Appendix.

**Additional Information** Further information is available at [www.kukdo.com](http://www.kukdo.com).



## INTERACTIVE PDF — User Guide

This report is published as an interactive PDF, which provides navigation to related sections and direct links to relevant webpages.

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# CEO Message

Kukdo Chemical, the pioneer of epoxy resin production in Korea, has evolved into a leading global chemical materials company. With the publication of our inaugural Sustainability Report in 2024, we reaffirm our commitment to advancing ESG practices by reducing greenhouse gas emissions, expanding our portfolio of sustainable products, and reinforcing transparency in governance.

Dear Stakeholders, I am MS Hwang, Executive Director of Kukdo Chemical Co., Ltd. Since introducing Korea's first epoxy resin in 1972 and supplying it across industries, Kukdo Chemical has grown into a world-class chemical materials company through relentless innovation and continuous challenges. For more than five decades, our sustained growth has been underpinned by a management philosophy that upholds "Responsibility to the Nation and Society" and "Legal and Compliance Business Conduct." To strengthen our contribution to society while pursuing sustainable growth, we established a dedicated ESG organization in 2022 and have since advanced related policies and systems. We have also invested proactively by appointing ESG specialists and upgrading facilities to accelerate our sustainability journey. Reflecting on 2024, we made tangible progress across all ESG dimensions—environmental, social, and governance. For our key products, we conducted Life Cycle Assessments (LCA) and Product Carbon Footprint (PCF) calculations, laying the foundation for reducing product-level greenhouse gas emissions and setting short- and mid-term reduction targets. In addition, we expanded the scope of ISCC PLUS certification, initially obtained in 2023 for epoxy resins, to include hardeners manufactured across all our domestic operations, thereby broadening our sustainable product lineup. To reinforce one of our core philosophies— "Legal and Compliance Business Conduct"—we obtained ISO 37001(Anti-Bribery Management System) certification. As a member of the UN Global Compact, we actively participate in the initiatives of its Korea Network, including community engagement programs. We are also strengthening transparency in governance by institutionalizing decision-making processes, delegation of authority, and corporate operations. Looking ahead, Kukdo Chemical aspires to become not only the global leader in epoxy resins but also a foremost chemical materials enterprise. We will minimize our environmental impact—including greenhouse



gas emissions, wastewater, and waste—while fostering employee well-being and career development. At the same time, we will continue to build a transparent and fair corporate culture. Dear Stakeholders, This Sustainability Report represents Kukdo Chemical's first ESG disclosure. Through this report, we aim to engage more openly with our stakeholders while continuously identifying, addressing, and improving areas where our ESG practices can be further enhanced. Thank you.

**MS Hwang**  
Chief Executive Officer 

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# Company Overview

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Founded in 1972, Kukdo Chemical was the first in Korea to produce and supply epoxy resins and hardeners. Since then, we have contributed not only to the advancement of the Korean chemical industry but also to a wide range of global industries—including electronics, automotive, shipbuilding, civil engineering and construction, as well as aerospace and defense—becoming a driving force behind Korea’s economic growth. By boldly venturing into an untapped domestic market, Kukdo Chemical secured one of the world’s largest production capacities and has established itself as a global leader, supplying high-value-added products to approximately 80 countries worldwide. Our unwavering commitment to customer-first principles and trust-based management has been the core driver of these achievements in a highly competitive environment.

Our mission is clear: “To deliver the highest-value chemical materials that contribute to the success of our customers.” To realize this mission, we focus on continuous investment in research and development, strengthening our global supply chain, and advancing standards of quality, safety, and environmental management. Through relentless innovation and capability enhancement, Kukdo Chemical will continue to create future value across industries.

<b>Company Name</b>	Kukdo Chemical Co., Ltd.
<b>Chief Executive Officers</b>	Si Chang Lee, MS Hwang
<b>Industry</b>	Manufacturing (Chemical materials including epoxy resins and hardeners)
<b>Headquarters</b>	61, Gasan Digital 2-ro, Geumcheon-gu, Seoul, Republic of Korea
<b>Employees</b>	930 (excluding subsidiaries)
<b>Established</b>	February 22, 1972

Financial Performance, 2024		(Unit: KRW million)		
Category	2022	2023	2024	
Revenue	1,601,774	1,311,776	1,305,775	
Operating Profit	96,931	19,153	25,334	
Net Profit	73,532	7,490	8,941	
Total Assets	1,499,094	1,509,561	1,593,312	
Total Equity	858,188	847,026	853,824	
Total Liabilities	640,906	662,535	739,488	
Production Volume (ton)	408,733	494,074	514,235	

**Vision**

**Beyond the World’s No. 1 Epoxy Company,  
Toward the Leading Chemical Materials Company**

**Core Values**

**Integrity**

- Making customer-centered decisions
- Honoring commitments to our customers
- Building trust by contributing to customer success

**Excellence**

- Relentless pursuit of competitive capabilities
- Continuous development of individual talent and skills
- Striving for higher performance through fair competition

**Sustainability**

- Fulfilling our enduring role to customers
- Creating value that benefits society and humanity
- Promoting transparent and sound management

**Mission**

**As a trusted partner, we deliver high-value chemical materials that contribute to the success of our customers.**

**Highest Value**

By adding innovation to our fundamental values, we provide customers with the highest total value.

**Partnership**

We aim to be a trusted partner who grows together with our customers’ success.

**Contributing to Customer Success**

Helping our customers succeed is the foundation of Kukdo Chemical’s mission and the path to our shared growth.

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## Corporate History

- Establishment**
- Feb. 1972 Established Kukdo Chemical Industry Co., Ltd.
  - Jan. 1973 Completed construction of the Seoul Production Site (YD-Plant)
  - Oct. 1983 Established the company-affiliated R&D Center
  - Nov. 1985 Received the Presidential Award for exceeding USD 10 million in exports
  - Aug. 1989 Listed on the Korea Stock Exchange
  - Apr. 1994 Completed construction of the Iksan Site
  - May. Supplied epoxy resins for the Great Man-Made River Project in Libya
  - May. 1996 Completed construction of the Sihwa Site
  - Apr. 1997 Completed construction of Kukdo Chemical's new headquarters building
  - Jun. 1998 Entered the polyurethane business
  - Apr. 1999 Renamed as Kukdo Chemical Co., Ltd.



- 2000 ~**
- Apr. 2002 Established Kukdo Chemical (Kunshan) Co., Ltd. in China
  - Nov. 2003 Completed construction of the 1st Subsidiary of Kukdo Chemical (Kunshan) Co., Ltd. in China
  - Jul. 2004 Completed construction of the Busan Site and Polyol Production Site
  - Jun. 2005 Relocated the Seoul Production Site
  - Nov. Received the USD 100 Million Export Tower Award on the 42nd Trade Day
  - Mar. 2008 Acquired Kukdo Finechem
  - Nov. Received the USD 200 Million Export Tower Award on the 45th Trade Day



- 2010 ~**
- Dec. 2011 Received the USD 300 Million Export Tower Award on the 48th Trade Day
  - Feb. 2013 Established Nichido Chemical
  - Dec. 2015 Achieved consolidated revenue of KRW 1 trillion
  - Mar. 2016 Completed construction of the Kukdo Chemical Co., Ltd. Head Office
  - May. 2017 Established Kukdo Chemical India Pvt. Ltd.
  - Sep. Established Kukdo Advanced Materials Co., Ltd.
  - Nov. Established Kukdo Chemical (Ningbo) Co., Ltd. in China
  - May. 2018 Completed construction of the Hwaseong Site of Kukdo Advanced Materials



- 2020 ~**
- Sep. 2020 Completed construction of the Welfare Center at Iksan Site
  - Nov. Completed construction of the Kukdo Chemical India Pvt. Ltd.
  - Apr. 2021 Established the European sales subsidiary Kukdo Europe GmbH (Germany)
  - Jan. 2022 Established Kukdo Chemical America, Inc.
  - Feb. Renovated office spaces at the Kukdo Chemical Co., Ltd. Head Office to enhance workplace innovation
  - Apr. Commenced production at the Production Site of Kukdo Chemical (Ningbo) Co., Ltd.
  - Aug. Acquired SEGYOHEUNGUP
  - Dec. 2023 Completed Construction Site of the Busan Site 2
  - Jul. 2024 Acquired Jeongdo Chemical
  - Oct. 2024 Merged Kukdo Advanced Materials Co., Ltd. (Hwaseong Site) through absorption merger



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# Global Network

## Global Network for a Sustainable Value Chain



**1. Domestic Operations**

**[Domestic]**

Kukdo Chemical Co., Ltd. Head Office, Iksan Site, Busan Site, Sihwa Site, Hwaseong Site

**2. Subsidiaries**

**[Domestic]**

Kukdo Finechem, Jeongdo Chemical, SEOGYOHEUNGUP, Nichido Chemical

**[Overseas]**

Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical (Ningbo) Co., Ltd., Kukdo Chemical India Pvt. Ltd., Kukdo Europe GmbH, Kukdo-Chemical America Inc.

**[Warehouse]**

Chicago, Houston, Savannah, Atlanta, Detroit, LA, Newark, Jacksonville, Memphis

Hamburg, Liverpool, Rotterdam, Barcelona, Koper, Lyon, Naples, Fos-sur-Mer, Genoa

**[Bulk Storage]**

Houston

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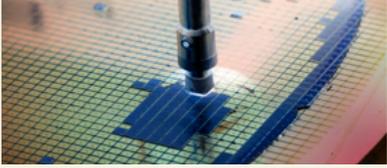
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# Key Products

Category	Description	Applications
Epoxy Resins	Functiona Materials	
	Bio-based Materials	
Hardeners		
Composite Materials	Wind Power Composite Materials	
	Advanced Composite Materials	
Application Materials	Materials for Automotive Electronics	
	Epoxy Systems for Heavy Electrical Equipment	
	Polyurea	
	Polyurethane Foam Systems	
Reactive Diluents		
Anisotropic Conductive Film (ACF)		

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# Sustainability Highlight

## 1. ISCC PLUS Certification Expansion for Hardeners



Kukdo Chemical has extended ISCC (International Sustainability & Carbon Certification) PLUS certification, initially obtained in 2023 for epoxy resins, to hardeners produced across all domestic Operations (Iksan, Busan, and Sihwa Sites). ISCC PLUS is an international certification system based on the EU Renewable Energy Directive (RED II), which transparently verifies sustainability and greenhouse gas reduction performance across the entire process—from raw materials to final products. Through this expansion of certification, Kukdo Chemical has further strengthened the credibility of its carbon reduction efforts across its core product portfolio.



ISCC PLUS Certificate

## 2. Implementation of LCA & PCF Systems



Kukdo Chemical conducts Product Carbon Footprint (PCF) calculations and Life Cycle Assessments (LCA) for its key products, including epoxy resins and hardeners. PCF is a metric that quantifies greenhouse gas emissions generated throughout a product’s entire life cycle—from production to use and disposal. LCA is a more comprehensive international standard methodology that, beyond greenhouse gas impacts, assesses a broad range of environmental factors such as resource depletion, acidification, and water use. The data generated from these assessments are provided to customers upon request and are also utilized to drive product-level initiatives aimed at reducing environmental impacts.



## 3. Acquisition of ISO 37001 Certification



Following the achievement of ISO 37301 (Compliance Management System) certification in 2023, Kukdo Chemical further obtained ISO 37001 (Anti-Bribery Management System) certification in August 2024, reaffirming its management philosophy of “Legal and Compliance Business Conduct.” ISO 37001 is an international standard designed to prevent corruption within organizations and to minimize related risks. It requires a systematic management framework covering the entire process—from policy development to implementation, monitoring, and continual improvement. Through this certification, Kukdo Chemical has demonstrated the establishment of a global-level ethics and compliance system, further strengthening stakeholder trust based on transparent and responsible corporate governance.



ISO 37001 Certificate

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# Sustainability Strategy

## Sustainability Vision & Strategy

Kukdo Chemical has established an integrated sustainability strategy encompassing environment (E), social (S), and governance (G), and operates a structured framework that balances business growth with social responsibility. After identifying company-wide key ESG issues, we defined directions for each area and built our sustainability strategy on three strategic pillars: (1) environmental protection, (2) creation of social value, and (3) transparent and accountable governance. To respond proactively to today's rapidly changing external environment, we apply an adaptive management approach that continually refines our action plans. This strengthens our resilience and risk management capabilities while reinforcing the foundation for long-term value creation. Looking ahead, Kukdo Chemical will continue to act as a responsible corporate citizen, creating a sustainable future together with our stakeholders built on trust.

## Detailed ESG Action Plans

### Environment

- **Reduction of greenhouse gas emissions**
  - Establishment of a GHG reduction roadmap
  - Improvement of energy efficiency and expansion of renewable energy use
- **Expansion of Life Cycle Assessment (LCA) and Product Carbon Footprint (PCF) management**
- **Bio-based Sustainable Product Innovation (R&D)** 



### Social

- **Strengthening Occupational Health & Safety (OHS) Management**
  - Building safe and healthy workplaces
- **Enhancing Human Rights Governance & Due Diligence**
  - Conducting human rights impact assessments
- **Expanding community engagement initiatives** 



### Governance

- **Strengthening compliance and anti-bribery management systems**
- **Reinforcing ethical business practices**
- **ESG management of supply chain**
  - Establishing sustainable procurement policies and conducting supply chain ESG assessments
- **Enhancing information security and cybersecurity** 



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# Sustainability Strategy

## Sustainability Governance Structure

Kukdo Chemical has established a clear company-wide governance framework to maximize execution across all areas of environment, social, and governance (ESG). The Sustainability Team acts as the central coordinating body for ESG strategy, overseeing strategy development, initiative implementation, and cross-functional alignment. The team institutionalizes sustainability practices across the organization, embedding ESG values into operations while responding proactively and with agility to customer sustainability requirements. The Chief Executive Officer (CEO), as the highest decision-making authority, directly receives reports from the Sustainability Team on ESG matters, reviews and approves ESG agendas, and makes final decisions on strategies and improvement measures when required. The Sustainability Team also leads the process of obtaining and renewing certifications and coordinates responses to external ESG evaluations. Relevant departments—including EHS (Environment, Health & Safety), R&D, HR Management, Finance & Accounting, Technical Management, and Process Innovation—provide data and execution support to enable informed decision-making.

Going forward, Kukdo Chemical will continue to advance its governance framework to ensure sustainability values are fully embedded across the organization, thereby reinforcing long-term corporate resilience and value creation.

## Roles & Responsibilities

The Sustainability Team leads the development and implementation of the company-wide ESG strategy. It provides regular updates—at least weekly—to the Chief Executive Officer (CEO), the highest decision-making authority, along with ad-hoc reports as needed. The CEO reviews and approves reported agendas and, when necessary, takes timely final decisions on strategic adjustments and improvement measures. Supporting departments—including EHS, R&D, HR Management, Finance & Accounting, Technical Management, and Process Innovation—are responsible for executing action plans and supplying relevant data to the Sustainability Team, ensuring decisions are data-driven and evidence-based.



## Integration of ESG into Investment Decisions



Kukdo Chemical systematically integrates environmental, social, and governance (ESG) factors into its investment decision-making process to strengthen the foundation for sustainable growth. In particular, we have established a structured framework to quantify environmental impacts—such as greenhouse gas (GHG) reduction—and to incorporate the results directly into investment evaluations. Starting in 2025, we revised our investment proposal process to introduce an ESG bonus point system for new investment projects. Accordingly, each proposing department prepares detailed descriptions of ESG-related impacts, such as expected GHG reductions, in line with internal review criteria. This information is consistently reviewed at every stage prior to approval, ensuring that ESG considerations are systematically embedded throughout the entire investment decision-making process.

## CEO Reporting and Approval Agenda (2024 – H1 2025)

Agenda Item		Details
ESG – General	ESG Assessment	ESG ratings and response measures
	Sustainability Report	Publication plan for the Sustainability Report; implementation of double materiality assessment
Environment	Climate Strategy & Transition	2025 short-term GHG reduction activities & 2030 mid-term GHG reduction roadmap
	Emissions Trading Scheme	Report on carbon allowance management plan
	Carbon Reduction	Implementation of LCA & PCF Project
	Environmental Management Practices	Annual environmental management targets
	Sustainable Raw Materials	Development plan for recycling raw materials
Social	Sustainable Products	ISCC PLUS certification acquired
	Policy & Guidelines	Establishment and dissemination of sustainable procurement policy
	Human Rights	Conducting human rights impact assessments
	Supply Chain Management	Conducting supply chain ESG assessments
Governance	Community Engagement	Action plans for Community Engagement
	Publication	Publication of 2024 Governance Report

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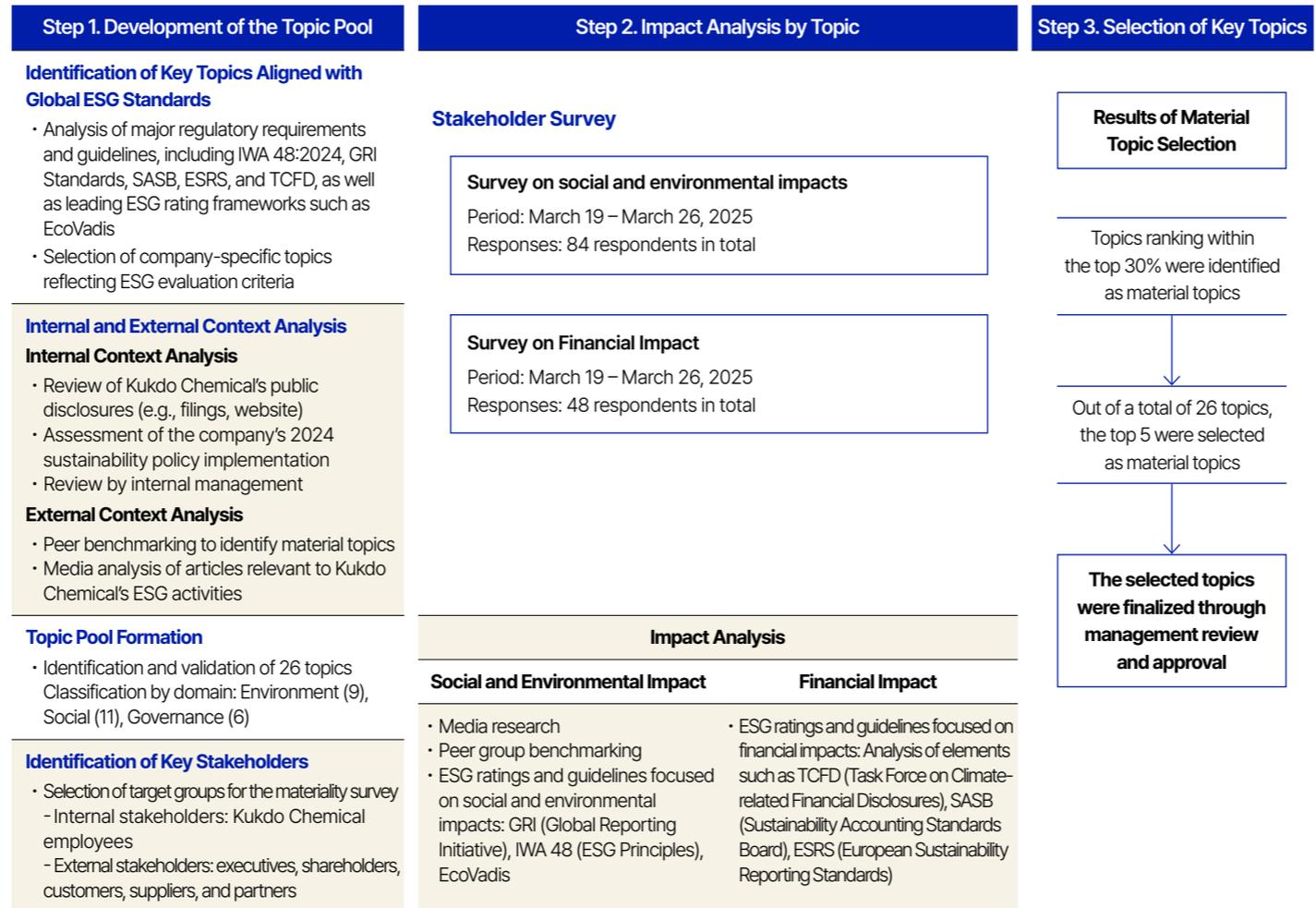
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# Double Materiality Assessment

Through the Double Materiality Assessment, Kukdo Chemical regularly evaluates both Impact Materiality—the effects of our business activities on society and the environment—and Financial Materiality—the effects of external sustainability factors on financial value. This assessment is carried out in alignment with stakeholder expectations and evolving industry issues. Material topics identified through the process undergo a step-by-step validation procedure and are finalized through review and approval by senior management, including the Chief Executive Officer (CEO).

## Double Materiality Assessment – Overview



## List of Topics

Category	Agenda Item	Topics
1		GHG Emissions Management
2		Energy Efficiency and Renewable Energy Use
3		Biodiversity Conservation
4		Pollutant Emissions Management
5	Environment	Hazardous Substances Management
6		Water Resource Management
7		Waste Management
8		Environmental Impact Assessment of Products and Services
9		Enhancement of Product Circularity
10		Sustainable Supply Chain Management
11		Talent Development and Management
12		Enhancing Working Conditions
13		Safe Workplaces
14		Fair Compensation and Benefits
15	Social	Employee Engagement and Communication
16		Customer Health and Safety
17		Human Rights Protection and Due Diligence
18		Community Engagement and Investment
19		Information Security and Data Protection
20		Diversity and Equal Opportunity
21		Transparency in Governance
22		Strengthening Compliance and Anti-Corruption Systems
23	Governance	Protection of Shareholder Rights
24		Stakeholder Engagement and Communication
25		Promoting Ethical Business Practices
26		Enterprise Risk Management (ERM) Framework

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## List of Material Topics

Rank	Category	Topic	Impact		Kukdo Chemical's Response Strategy	UN SDGs	GRI Index	Report Page
			Social and Environmental	Financial				
1	Environment	GHG Emissions Management	●●●	●●●	Continuous reduction of GHG emissions through process improvements and energy efficiency, acquisition of certifications and establishment of systems related to GHG reduction such as ISO 50001 and ISO 14001, step-by-step reduction activities through mid- to long-term facility investments including renewable energy adoption and introduction of zero-emission vehicles, calculation of Product Carbon Footprint (PCF) and Life Cycle Assessment (LCA) by product, expansion of products using low-carbon raw materials and customer promotion, and establishment of the company's 2030 mid-term GHG reduction target.		GRI 305	19-21
2	Environment	Pollutant Emissions Management	●●●	●●●	Acquisition of environmental certifications and establishment of management systems such as ISO 14001, and enhancement of environmental personnel at each site to strengthen the environmental management organization.	 	-	22-24
3	Governance	Strengthening Compliance and Anti-Corruption Systems	●●●	●●●	Operation of an internal accounting control system, establishment of anti-bribery and ethics & compliance programs based on ISO 37001 and ISO 37301, reinforcement of ethics-related training for all employees, regular compliance pledges by all employees, and operation of internal and external reporting channels.		GRI 205	47
4	Environment	Waste Management	●●●	●●●	Defining and implementing reduction targets by waste category, and reduction of waste generation through process improvements.		GRI 306	25
5	Social	Safe Workplaces	●●●	●●○	Acquisition of safety-related certifications and establishment of management systems such as ISO 45001, development of case-specific response plans and regular drills at each site, and embedding of a safety culture through initiatives such as Safety Magazine, safety awards, top management safety messages, and Safety Talks before major meetings.	 	-	34-36

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# Stakeholder Engagement

Kukdo Chemical defines collaboration with stakeholders as a key driver of corporate sustainability. To this end, we operate dedicated communication channels tailored to the characteristics of each stakeholder group—including customers, employees, shareholders and investors, partners/suppliers, local communities, and government agencies. The feedback and suggestions gathered through these channels are reflected in our strategy development and overall business operations. This process strengthens the foundation of our sustainability management and contributes to building stronger trust with our stakeholders.

Stakeholder Group	Communication Channel	Frequency	Key Interests
 Customers	Customer Meetings	Ongoing	Company and product information, product supply, monitoring of market trends and customer demand, development of new products and improvement of existing product performance, and quality enhancement
	Technical Seminars	Ongoing	
	Participation in Coating Shows	1-2 times per year	
	Company Website (Product Inquiry Section)	Ongoing	
 Shareholders and Investors	General Shareholders' Meeting	Annually	Maximization of shareholder value, improvement of corporate operations and governance, and distribution of management performance (e.g., dividends)
	Corporate Presentations (IR Sessions)	Ongoing	
	Business Report	Annually	
	Sustainability Report	Annually	
	Governance Report	Annually	
 Partners/Suppliers	Communication Channel for Minority Shareholders (Phone)	Ongoing	Supply of raw materials and construction services, equipment manufacturing, supply chain ESG management, and compliance with safety and subcontracting requirements
	Mutual Visits and Meetings	Ongoing	
	Reporting Channel (Whistleblowing)	Ongoing	
 Employees	Labor-Management Council	Quarterly	Expansion of two-way communication between labor and management, improvement of working conditions including benefits, employee capability-building and training programs, workplace safety reinforcement, and support for leisure activities
	Monthly Performance Review meetings	Monthly	
	Occupational Health & Safety Committee	Quarterly	
	Club Activities	Ongoing	
	Year-end Events	Annually	
 Local Communities and Government Agencies	Community Engagement Activities	Ongoing	Fulfilling corporate social responsibility through community contributions, participation in national projects led by government agencies, communication with residents near business sites, and engagement in associations to promote ESG initiatives
	Membership in Associations	Ongoing	
	Participation in Local Councils	Ongoing	
	Implementation of National Projects	Ongoing	



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<b>Climate Strategy &amp; Transition</b>	<b>19</b>	<b>Product Stewardship</b>	<b>27</b>
<b>Pollutant Emissions Management</b>	<b>22</b>	<b>Sustainable Product Innovation (R&amp;D)</b>	<b>29</b>
<b>Waste Management</b>	<b>25</b>		

Kukdo Chemical is actively responding to climate change and the transition to a circular economy. To this end, we have obtained and are operating management system certifications such as ISO 14001 and ISO 50001, while implementing specific initiatives including process optimization, enhancement of energy efficiency, and reduction of air pollutant, wastewater, and waste emissions. Through Life Cycle Assessment (LCA) management of our key products, we monitor environmental impacts at the product level. In addition, we have expanded ISCC PLUS certification beyond epoxy resins to include hardeners, thereby supplying more sustainable products.

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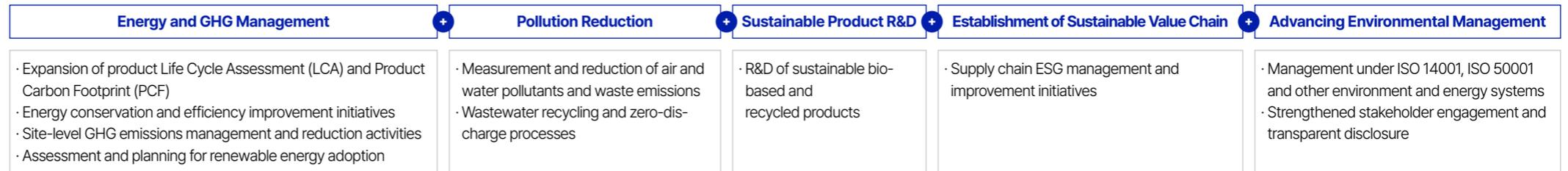
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# Environmental Management System

## Environmental Management Organization

To systematically implement environmental management, Kukdo Chemical has placed the EHS (Environment, Health & Safety) Group within the Head of Production Division, with direct reporting lines to the CEO, and promotes company-wide environmental management in close cooperation with environmental teams at each business site. The EHS Group serves as the focal point for establishing response systems to major environmental issues and strengthening execution at the site level. The environmental teams at each business site implement initiatives customized to each process's characteristics—such as pollutant emissions management, resource efficiency, and GHG reduction—and regularly report performance to the EHS Group. To strengthen execution, Kukdo Chemical integrates environment-related KPIs into the responsibilities of both managers and practitioners, and monitors progress through target-based management systems to ensure regular review and continuous improvement. Looking ahead, the company will enhance enterprise-wide environmental management through data-driven monitoring and ongoing improvement activities.



## List of Material Topics

Kukdo Chemical has set its vision as “a sustainable chemical materials company that minimizes environmental impacts across all operations” and practices systematic environmental management at the enterprise level.

Topic	Details
Environmental Management System	<ul style="list-style-type: none"> <li>Establishment of environmental management systems</li> <li>Compliance with environmental regulations and risk management</li> </ul>
Pollution Reduction	<ul style="list-style-type: none"> <li>Continuous monitoring of air and water pollutants as well as waste emission</li> <li>Establishment and management of in-house standards for emission concentrations</li> <li>Expansion of wastewater recycling</li> </ul>
Minimization of Environmental Impacts at Business Sites	<ul style="list-style-type: none"> <li>Management of hazardous substances and waste</li> <li>Efficient use of resources and promotion of the circular economy</li> </ul>

## Environmental Policy

Kukdo Chemical operates the following policy to minimize environmental impacts across the entire supply chain and to secure a sustainable future. Each department establishes and implements detailed action plans aligned with this policy, thereby continuously strengthening environmental conservation and responsible management.

- Strictly comply with environmental laws, regulations, and domestic and international requirements.
- Conserve resources and energy while minimizing pollutant emissions.
- Establish environmental objectives and drive continuous improvement through regular performance reviews.
- Provide environmental training to employees and disclose this policy transparently to external stakeholders.

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# Environmental Management System

## Environmental Management System

Kukdo Chemical has established an environmental management system based on ISO 14001. As of 2024, 9 out of 11 production business sites across domestic and overseas subsidiaries are certified, representing a certification rate of 82%. The company aims to maintain a certification rate of at least 90% by 2030.

## Environmental Management Organization

Kukdo Chemical systematically identifies risks and opportunities that may arise in the course of environmental management, and operates a risk and opportunity management process that is implemented annually to ensure continuous improvement and advancement. This process follows a cyclical structure in which company-wide reviews consolidate identified results and establish and implement corresponding improvement measures. Through ongoing identification and improvement of environmental risks and opportunities, the company consistently reduces environmental impacts, ensures compliance with regulations, and strengthens responsiveness to stakeholder expectations. These continuous improvement activities serve as the foundation for advancing a sustainable environmental management system.



## Regular Environmental Audits

Kukdo Chemical systematically manages environmental risks at its business sites through the ISO 14001 environmental management system. Internal environmental audits are conducted annually for certified sites, while external renewal audits are performed on a three-year cycle to verify the system's suitability and effectiveness. The results of these audits are used as the basis for continuous monitoring and improvement of overall environmental management—covering regulatory compliance, operation of prevention facilities, and environmental pollution prevention—and contribute to strengthening execution at the site level.

## Environmental Management Training

Kukdo Chemical implements systematic training programs to strengthen environmental management capabilities, focusing on environmental practitioners. Employees in environmental functions are required to complete three to four mandatory courses annually, aligned with individual KPIs, with specialized modules on air emissions and wastewater management to enhance expertise.

To further build sustainability competencies, practitioners are provided opportunities to attend external professional programs, seminars, and workshops—covering areas such as Life Cycle Assessment (LCA) and Scope 3 (supply chain emissions management)—in addition to internal training. In relation to the Energy Management System (ISO 50001), five hours of training were completed by one certified manager, and a total of 40 hours by five energy management officers. For compliance with the Chemical Substances Control Act, legal training is provided every two years for chemical handlers and annually for other employees. While current programs primarily target environmental practitioners, Kukdo Chemical plans to extend training to all employees, building company-wide awareness of environmental stewardship and enhancing execution.

## Environmental Regulatory Monitoring

Kukdo Chemical systematically monitors and assesses environmental laws and regulations, both domestic and international—such as the Chemical Substances Control Act, the Act on the Registration and Evaluation of Chemicals, the Clean Air Conservation Act, and EU REACH. The company tracks amendments and emerging trends, communicates timely updates to employees, and ensures they are able to promptly understand and integrate relevant requirements into their work.

## Monitoring of Environmental Laws and Regulations (Domestic & International)



\* Amendments and changes to laws and regulations are reviewed on an ongoing basis and reflected in business operations.

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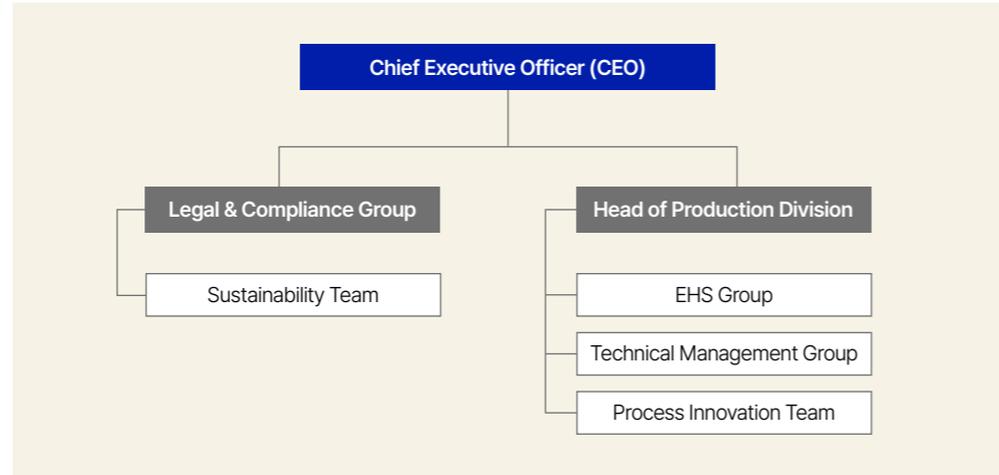
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# Climate Strategy & Transition

Material Topic – Rank 1  
**GHG Emissions Management**

## Climate Strategy & Transition Organization



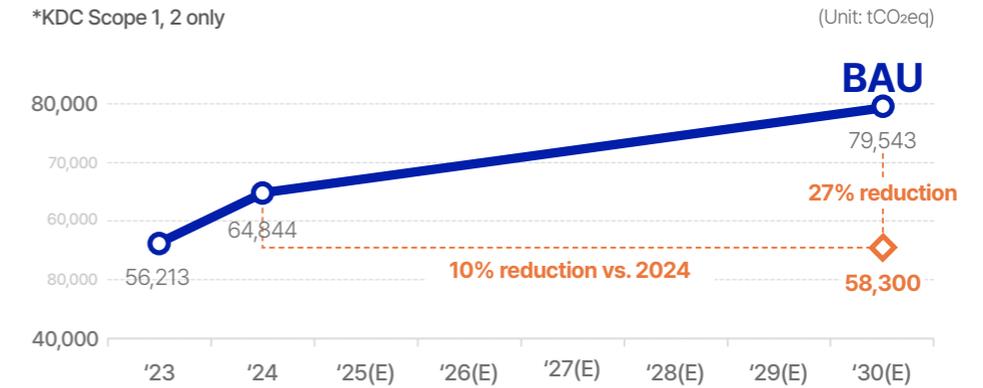
### Roles of the Climate Strategy & Transition Organization

Kukdo Chemical operates its climate Strategy & Transition system with oversight by the Chief Executive Officer (CEO) and support from dedicated departments. The Sustainability Team, acting as the central coordinating body for ESG management, establishes company-wide strategies, oversees execution, and facilitates communication and collaboration across relevant departments. The Head of Production Division, as the primary execution unit at the operational level, is responsible for implementing climate Strategy & Transition initiatives and managing performance across business sites. The EHS (Environment, Health & Safety) Group oversees the systematic management and reduction of greenhouse gases, wastewater, and waste—covering emission source control, regulatory compliance, and accident prevention. The Technical Management Group supports efficiency improvements and optimal facility operation through energy and equipment optimization. The Process Innovation Team drives optimization and advancement of production processes to save energy and deliver measurable outcomes in climate action.



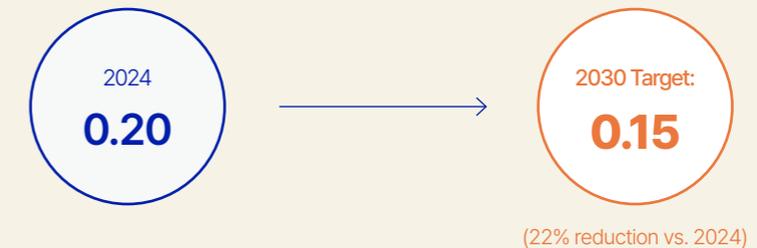
## GHG Emissions Reduction Target

Kukdo Chemical has set a reduction target for Scope 1 and 2 GHG emissions, based on a Business-as-Usual (BAU) scenario, with a commitment to reduce emissions by 27% relative to BAU by 2030. This target is equivalent to an actual reduction of about 10% against 2024 levels. The company pursues a sustainable future through phased implementation plans under a target framework designed to be both realistic and credible.



2024 Actual emissions	2030 Reduction target
Scope 1 : 17,754 tCO <sub>2</sub> eq	Scope 1 : 655 tCO <sub>2</sub> eq (4% reduction vs. 2024)
Scope 2 : 47,094 tCO <sub>2</sub> eq	Scope 2 : 5,893 tCO <sub>2</sub> eq (13% reduction vs. 2024)

### Greenhouse Gas Intensity (tCO<sub>2</sub>eq per ton of production)



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# Climate Strategy & Transition

## GHG Emission Reduction Activities

Kukdo Chemical systematically manages GHG emissions and continuously reduces them through process improvements and energy savings. These activities are operated as a cyclical process in which implementation status is reviewed and necessary improvements are made on an ongoing basis. In 2025, the company established a dedicated GHG Reduction Project Team and developed specific reduction targets and action plans, based on diverse initiatives such as process optimization, energy conservation, and equipment replacement. Implementation is being carried out in phases. Going forward, Kukdo Chemical will continue to identify and refine initiatives tailored to the characteristics and priorities of each business site, ensuring that emission reduction outcomes are sustained over the long term.

### 1. Energy Management System

Kukdo Chemical has obtained ISO 50001 (Energy Management System) certification at five business sites, including domestic and overseas subsidiaries, and operates in compliance with its requirements. In line with ISO 50001, the company regularly monitors energy consumption and GHG emissions, establishes and implements improvement targets for major energy-using facilities, and continuously manages overall energy performance. Regular training is also provided for internal auditors and practitioners to strengthen expertise and enhance the company's execution capabilities in GHG reduction.

### 2. Energy Efficiency Improvements at Business Sites

At each business site, Kukdo Chemical improves energy efficiency through the introduction of Waste Heat Recovery (WHR) systems, replacement and maintenance of outdated equipment, and phased upgrades of process facilities. In addition, several sites procure steam produced using recovered waste heat and bio-solid fuels, reducing reliance on fossil fuel-based steam and thereby lowering GHG emissions.

### 3. Integration of Climate Strategy & Transition into Investment Review

Since 2025, Kukdo Chemical has incorporated GHG emission reduction effects into investment decision-making, ensuring that climate action is evaluated as a mandatory criterion from the initial investment review stage.

### 4. Operation of GHG Reduction Projects

In 2025, Kukdo Chemical selected six ongoing projects with proven GHG reduction potential, setting specific reduction targets for each initiative and monitoring progress on a monthly basis. Regular performance reviews are conducted in parallel with corrective measures to ensure achievement of the targets.

Business Site	Key Activity	Energy Source	Scope	Status	Timing	Expected Energy Reduction in 2025 (Unit)	Expected GHG Emission Reduction in 2025 (tCO <sub>2</sub> eq)
Iksan Site	Installation of waste heat recovery system in process	Steam	Scope2	In progress	Jun. 2025 - Dec. 2025	1,602ton	12.7
Sihwa Site	Replacement of main steam trap	Steam	Scope2	In progress	Jan. 2025 - Dec. 2025	218ton	17.4
Iksan Site	Implementation of automated operation system	Electricity	Scope2	In progress	Apr. 2025 - Dec. 2025	26,775kWh	12.3
Busan Site	Reduction of process electricity consumption	Electricity	Scope2	In progress	Jan. 2025 - Dec. 2025	356,100kWh	163.6
Iksan Site	Power savings through installation of inverters in wastewater treatment facility	Electricity	Scope2	Planned	Jul. 2025 - Dec. 2025	236,500kWh	108.7
Iksan Site	Replacement of process heat exchanger type	Steam	Scope2	Planned	Aug. 2025 - Dec. 2025	1,004ton	7.9

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# Climate Strategy & Transition

## Low-Carbon and Eco-Efficient Facility Investments

Kukdo Chemical continues to invest in low-carbon and eco-efficient facilities to establish a sustainable production system, with a focus on energy conservation, minimizing environmental impacts, and enhancing resource efficiency. In parallel, the company is advancing process improvement initiatives to optimize the performance of existing facilities.

### 2024 Energy Savings through Process Improvements

Key Activity	Timing	2024 Reduction Achieved
Busan Site 2: Reduction of electricity consumption through improved agitator operation efficiency	Feb. 2024	11.1tCO <sub>2</sub> eq
Iksan Site: Reduction of electricity consumption through pump operation efficiency	Feb. 2024	551.3tCO <sub>2</sub> eq
Sihwa Site: Reduction of electricity consumption through lighting improvement works	Jan. 2024	15.6tCO <sub>2</sub> eq

### 2024 Low-Carbon and Eco-Efficient Facility Investments

Investment	Expected Outcome
Iksan Site: Installation of re-evaporation steam (waste heat) recovery system	Annual savings of approximately 2,864 tons of steam
Iksan Site: Installation of intermediate material drying system	Annual reduction of approximately 51,165 kg of waste generation

### 2024 Resource Savings

Key Activity	Timing	2024 Reduction Achieved
Reuse of distillation column packing material	Feb. 2024	Reduction of 10 m <sup>3</sup> of packing material and lower waste generation
Raw material savings through PNE/BPFE process improvements	Sep. 2024	Reduction of 307 kg of raw materials



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# Pollutant Emissions Management

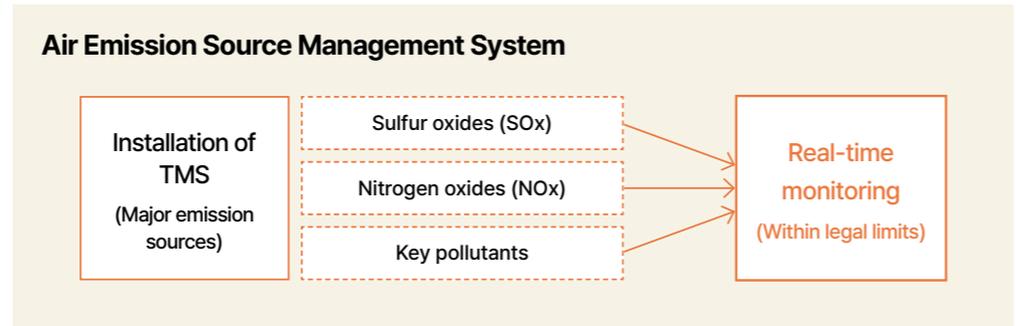
Material Topic – Rank 2

**Pollutant Emissions Management**

## Air Pollutant Management

### Air Pollutant Management System

To protect air quality, Kukdo Chemical has enacted internal 'Air Pollutant Control Regulations,' and operates a structured management system accordingly. Continuous Emission Monitoring Systems (CEMS) are installed at major emission sources to continuously monitor real-time concentrations of key pollutants such as particulate matter, sulfur oxides (SOx), and nitrogen oxides (NOx). The company's guiding principle is to ensure that all emissions remain within legal thresholds. Major air pollution control facilities undergo regular inspections to verify facility integrity and treatment efficiency, with corrective measures implemented as needed. Periodic monitoring is also conducted by accredited third-party organizations. Results are reviewed in advance to prevent any potential exceedance of regulatory thresholds and to ensure full compliance with applicable laws.



### Air Pollutant Targets

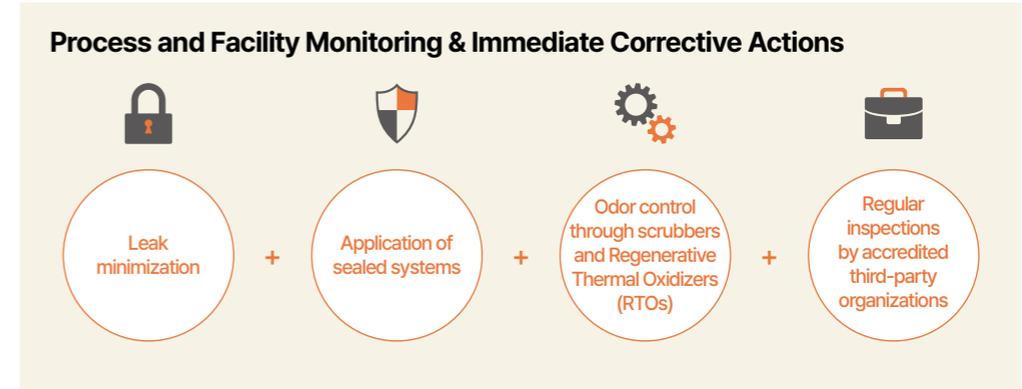
Pollutant	Unit	Legal Limit	Target by Business Site			
			Busan Site 1	Busan Site 2	Iksan Site	Sihwa Site
THC	ppm	200	40	40	50	150
Sulfur oxides (SOx)	ppm	30	2	2	10	20
Nitrogen oxides (NOx)	ppm	Busan and Iksan Sites: 70 Sihwa Site: 49	4	3	15	30
Particulate matter (Dust)	mg/Sm <sup>3</sup>	Busan Site: 10.5 Iksan Sites: 15 Sihwa Site: 14	2	2	5	10

### Air Pollutant Reduction Activities

Kukdo Chemical operates air pollution control facilities tailored to the characteristics of pollutants generated by each process. Technologies such as Regenerative Thermal Oxidizers (RTO), Scrubbers, and Low-NOx Burners (LNB) are applied to treat pollutants effectively. RTOs not only remove volatile organic compounds (VOCs) and odors but also recover heat from the combustion process through the use of ceramic media. Filtration and dust collection systems are installed at emission sources to reduce particulate matter generated during operations. All control facilities are subject to regular maintenance and performance upgrades to ensure sustained reduction effectiveness. To strengthen fugitive emission management, Kukdo Chemical has introduced a Leak Detection and Repair (LDAR) system to regularly inspect potential leakage points such as pipelines, valves, and flanges. A continuous monitoring framework using detectors and analytical instruments is also in place to support preventive maintenance and minimize leaks. These efforts contribute to worker safety, the creation of a sustainable production environment, and strengthened trust with local communities.

### Odor Control and Improvement Efforts

Kukdo Chemical operates a structured odor management system to enhance the comfort of both the surrounding communities and the workplace environment. Processes and facilities that are potential odor sources are regularly monitored, with immediate corrective measures implemented as necessary. For processes with a high risk of odor generation, sealed systems designed to minimize leaks are applied, while control facilities such as Scrubbers and Regenerative Thermal Oxidizers (RTO) are used to treat odors effectively. Odor control facilities are managed to meet legal standards through a combination of internal inspections and regular audits by accredited third-party organizations.



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# Pollutant Emissions Management

Material Topic – Rank 2

**Pollutant Emissions Management**

## Noise Management Activities

Kukdo Chemical conducts regular noise measurements to minimize the impact of operational noise on surrounding communities. Based on measurement results, the company continuously verifies compliance with legal standards and assesses potential impacts on neighboring areas, taking corrective actions as needed. In work areas where noise is concentrated, noise barriers are installed, and equipment is fitted with vibration-absorbing pads and soundproof covers to systematically reduce noise during operations. In 2024, an additional five noise-reduction boxes and 11 soundproofing devices were installed at Busan Site 2. These engineering measures are implemented in parallel with facility maintenance, contributing both to the protection of local residents' living environments and to the creation of a more comfortable workplace.

## Soil Contamination Management Activities

Kukdo Chemical has established internal Land Management Regulations to prevent soil contamination caused by hazardous substances. The company conducts periodic assessments of soil conditions at business sites to minimize potential impacts and ensure strict compliance with legal thresholds. Facilities designated as soil contamination-prone, such as organic compound storage tanks and outdoor storage areas, are protected with anti-corrosion coatings and asphalt roofing to prevent external corrosion. Impermeable reinforced-concrete flooring structures are applied to provide both waterproofing and oil-proofing functions. Storage tanks and transfer pipelines are manufactured from corrosion-resistant materials to prevent leaks and ensure long-term facility stability. Regular inspections are carried out for these facilities, and when any signs of abnormality are detected, root-cause analyses and corrective actions are immediately undertaken. Through these measures, Kukdo Chemical operates a preventive management system that prioritizes proactive risk mitigation.

## Groundwater Contamination Prevention

Kukdo Chemical has established internal 「General Wastewater Management Regulations」 to ensure that wastewater generated at its business sites is strictly managed and not discharged into general drainage systems together with rainwater or other wastewater streams. In accordance with these regulations, wastewater is segregated and collected at the point of generation, and potential inflow at mixing points is blocked through preventive procedures. By operating this proactive management system, the company prevents contamination of groundwater and surrounding environments in advance while strengthening overall water quality protection.



## Water Resource Management

### Water Pollutant Management

Kukdo Chemical operates dedicated wastewater treatment facilities at each business site to prevent water pollution and minimize environmental impacts. Wastewater generated from production processes is separated and collected by system at the point of generation, then treated through physical, chemical, and biological processes to ensure compliance with legal standards. The treated wastewater undergoes regular water quality testing and monitoring to verify discharge suitability before being safely transferred to regional public wastewater treatment plants or municipal sewage treatment facilities.

### Groundwater Contamination Prevention

Pollutant	Unit	Legal Limit	Target by Business Site			
			Busan Site 1	Busan Site 2	Iksan Site	Sihwa Site
TOC	mg/L	Busan Site: 85 Iksan Site: 360 Sihwa Site: 75	53	68	60	50
SS	mg/L	Busan Site: 150 Iksan Site: 360 Sihwa Site: 80	97	63	50	60
T-P	mg/L	Busan and Sihwa sites: 8 Iksan Site: Not applicable	1	1	10	6
T-N	mg/L	Busan and Sihwa sites: 60 Iksan Site: 200	30	30	70	40

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# Pollutant Emissions Management

Material Topic – Rank 2

**Pollutant Emissions Management**

## Water Resource Management

### Wastewater Quality Assessment

Kukdo Chemical operates a structured water quality management system to minimize the environmental impact of wastewater generated at its business sites. Wastewater treatment facilities at each site apply physical, chemical, and biological processes to ensure proper treatment, after which all wastewater is directed to public wastewater or sewage treatment facilities in compliance with relevant regulations. The company undergoes regular water quality inspections conducted by the Ministry of Environment to verify the operational adequacy and legal compliance of wastewater treatment facilities. Based on inspection results, necessary improvements are implemented immediately to proactively mitigate water pollution risks. In addition, Kukdo Chemical has established an internal self-diagnosis framework for water quality, enabling pre-checks of major pollutant parameters to ensure the stability and efficiency of wastewater treatment. These multi-layered management activities not only secure compliance with water-related regulations but also contribute to risk reduction and the strengthening of a sustainable business foundation.

### Water Risk Assessment Results

Kukdo Chemical utilizes the World Resources Institute (WRI) Aqueduct Water Risk Atlas to identify and manage water stress levels at its domestic business sites. The current assessment results are as follows:

- Busan : <10% (Low) (Busan Site, Kukdo Finechem)
- Iksan : 40-80% (high) (Iksan Site, Nichido Chemical)
- Siheung : 20-40% (Medium) (Sihwa Site)
- Hwaseong : 20-40% (Medium) (Hwaseong Site)
- Ansan : 20-40%(Medium) (Jeongdo Chemical)



Kukdo Chemical regularly monitors water stress levels at each business site and manages water consumption as a key performance indicator. Water reduction initiatives are prioritized at sites identified as operating under high water stress. For example, in 2024 Iksan Site carried out a project to reduce industrial water consumption through adjustment of dilution water at the wastewater treatment facility, achieving savings of 41,920 tons over the year. The company continues to identify and evaluate potential water-saving initiatives annually, set reduction targets, and maintain a structured water resource management framework.



### Water Recycling, Reuse, and Water Use Reduction Activities

Kukdo Chemical enhances water use efficiency and reduces overall consumption by implementing circulating cooling water systems in major production processes, enabling process cooling water to be recovered and reused multiple times. In addition, blowdown water from cooling towers and steam condensate from production processes are recovered and recycled at in-house wastewater treatment facilities for salinity control. These recycling and reuse efforts reduce water consumption while improving the stability and efficiency of wastewater treatment, thereby strengthening the company's water circulation system and minimizing environmental impacts.

Kukdo Chemical India, a subsidiary, operates under a Zero Liquid Discharge (ZLD) system, eliminating wastewater discharge from its facilities. Kukdo Chemical (Kunshan) applies a Mechanical Vapor Recompression (MVR) process to separate high-salinity wastewater from production into salt and water. The recovered salt is collected separately, while the purified water is reused in production processes.

### 2024 Resource Savings

Key Activity	Timing	2024 Reduction Achieved
Reduction of industrial water consumption through adjustment of dilution water at wastewater treatment facilities (Iksan Site, Busan Site, Sihwa Site)	Jan. 2024	Total reduction of 147,802 tons of water – Iksan Site: 41,920 tons – Busan Site: 68,759 tons – Sihwa Site: 37,123 tons
Reuse of steam condensate at Busan Site 2 to reduce industrial water consumption	Mar. 2024	Reduction of 61,170 tons of water
Improvement of solvent recovery facilities to increase recovery efficiency	Jan. 2024	Reduction of 57 tons of solvents

Water stress levels were analyzed using the Baseline Water Stress indicator provided by the World Resources Institute (WRI) Aqueduct Water Risk Atlas 4.0. Baseline Water Stress represents the ratio of total water demand—including household, industrial, irrigation, and livestock use—to the available renewable surface and groundwater supply. The analysis was conducted under the following parameters: Baseline (approximately 2020), Annual Average, and the Optimistic Scenario (SSP1-RCP2.6).

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# Waste Management

## Waste Management

### Waste Management

Kukdo Chemical strictly restricts the transboundary movement of hazardous waste in compliance with the Basel Convention and relevant regulations. All hazardous waste is handled by officially licensed contractors, with every step tracked and recorded—from collection to final disposal. To ensure accuracy and transparency, the company maintains waste inventories, treatment contracts, disposal certificates, and tracking reports, while formal agreements with third-party contractors reinforce accountability. Kukdo Chemical adheres rigorously to legal requirements in waste management, setting qualitative targets to secure safety and compliance across storage, treatment, and transportation. At the same time, the company establishes quantitative targets—such as recycling rates and final disposal rates—based on the average performance of the past three years, in pursuit of circular economy objectives. Through this dual framework, Kukdo Chemical operates an efficient waste management system and drives continuous improvement.

### Waste Management – Organization, Responsibilities, and Roles

To operate waste management systematically, Kukdo Chemical has established a governance framework that clearly defines responsibilities and authorities—from senior management to environmental managers at each Operations. Roles and functions are divided into execution, review, and approval, all aligned with legal compliance and environmental risk prevention. Led by the Environmental Team, relevant internal departments collaborate to manage the entire waste lifecycle in an integrated manner.

#### Key Organizational Roles

<p><b>Top Management</b></p> <ul style="list-style-type: none"> <li>Final approval of waste treatment contracts</li> </ul>	<p><b>Environmental Management Representative (Head of Operations)</b></p> <ul style="list-style-type: none"> <li>Review of waste treatment contracts</li> </ul>	<p><b>Environmental Manager</b></p> <ul style="list-style-type: none"> <li>Preparation and maintenance of storage records and inspection of storage conditions</li> <li>Classification and management of general/recyclable waste and management of waste signage</li> </ul>
<p><b>Head of Environmental Team</b></p> <ul style="list-style-type: none"> <li>Review of waste treatment contracts</li> <li>Verification of contractor capabilities and treatment adequacy</li> <li>Provision of information and submission of data on types and components of waste</li> <li>Implementation of corrective actions in case of legal violations or deficiencies</li> </ul>		<p><b>Quality Assurance Team</b></p> <ul style="list-style-type: none"> <li>Provision of analytical results for general waste parameters upon request for waste requiring analysis</li> </ul>

### Waste Management System

- 1 Generation of waste from production processes**
- 2 Segregation of waste at source :** Waste generated by each department is classified into designated waste, general business waste, and recyclable waste. Categories include waste oil, designated waste, business waste, municipal waste, and common recyclables. Each classification is defined based on the place of generation, physical state (liquid/solid), and treatment method (incineration, recycling, etc.).
- 3 Storage and collection :** After waste is collected, on-site inspections are carried out to verify proper segregation. Waste is then transported to designated storage facilities. Final disposal waste is treated through licensed third-party contractors.
- 4 Recycling and reuse :** Waste that cannot be recycled internally is sent to external contractors for recycling. Waste that can be reused or recycled in-house is processed directly at each business site.



### Waste Reduction Activities

Kukdo Chemical is committed to reducing waste generation and advancing case-based initiatives to promote circular use of resources. At Iksan Site, liquid waste IBC (Intermediate Bulk Container) units—previously procured as new—are now replaced with recovered units returned by customers, enabling reuse and achieving an annual reduction of approximately 470 IBCs. This initiative not only directly reduces waste but also contributes to indirect sustainability improvements such as lower procurement costs and optimized logistics utilization.

In addition, a classification system is applied from the point of waste generation, categorizing waste into designated waste, general business waste, and recyclable waste. Used containers and drums are prioritized for recycling, while subsequent waste streams are actively reviewed for recycling potential. Through these practices, Kukdo Chemical minimizes the proportion of final landfilling and incineration, while continuously refining internal standards and execution to increase the company-wide recycling rate.

Business Site	Recycling Rate			Target / Base Year
	2022	2023	2024	
Sihwa Site	34%	61%	48%	47% / 2025
Iksan Site	67%	67%	72%	70% / 2025
Busan Site 1	83%	53%	59%	50% / 2025
Busan Site 2	100%	91%	84%	60% / 2025
Hwaseong Site	-	36%	29%	20% / 2025

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# Hazardous Chemicals Management

## Chemical Substance Management System

### MSDS (Material Safety Data Sheet) Management

Product-specific MSDSs are prepared in accordance with the 「Chemical Substances Control Act」, the 「Occupational Safety and Health Act」, and other applicable regulations, and include all required information. Training is provided to relevant staff on the preparation, management, and updating of MSDSs. MSDSs are periodically revised and redistributed to reflect the latest legislation and regulatory updates.

### Chemical Substance Registration and Management Process

To enhance company-wide understanding of chemical substance registration requirements, Kukdo Chemical has compiled relevant laws and internal procedures into training materials shared with all employees. For chemical substances used throughout product development, production, and sales, the company verifies registration requirements under the 「Act on the Registration and Evaluation of Chemical Substances (ARECs)」 and implements the necessary procedures in line with intended uses and regulatory criteria.

### Regulatory Compliance Framework for Chemical Substances

To ensure compliance with regulatory requirements prior to raw material procurement, Kukdo Chemical has established and operates 「Guidelines for Pre-Regulatory Review of Purchased Chemical Substances」. During product development, any introduction of new raw materials or changes in suppliers undergo a pre-review process to confirm compliance and establish appropriate response measures, thereby preventing risks after mass production. The company also monitors updates to hazardous chemical substance notifications, continuously manages usage and content levels, and supports each business site in taking timely and appropriate actions.

## REACH Management and Activities

- Identification of SVHC-containing raw materials** In accordance with the EU REACH regulation, Kukdo Chemical identifies and systematically manages substances classified as Substances of Very High Concern (SVHC) among the raw materials used.
- Monitoring and sharing of newly registered SVHCs** Twice a year, newly registered SVHCs are monitored, and related information is shared with employees via the company-wide bulletin board.
- Pre-review and improvement during R&D** At the product design and development stage, planned raw materials are reviewed in advance to determine whether they fall under SVHCs. If so, alternative substances or process improvements are applied to minimize risk.
- Compliance with EU REACH Regulations for exported products** Kukdo Chemical has completed EU REACH registration for product groups used in exports, and newly developed substances are also registered prior to market launch to ensure lawful supply.

\* REACH: Registration, Evaluation, Authorization and Restriction of Chemicals — the EU chemical regulation (Regulation (EC) No 1907/2006) requiring the registration, evaluation, authorization, and restriction of all substances manufactured or imported into the EU in quantities of one ton or more per year.

## Hazardous Chemicals Management Activities

When hazardous chemicals are newly designated or reclassified, Kukdo Chemical promptly circulates relevant information internally and strengthens proactive responses by conducting cross-reviews of raw materials between R&D and production divisions. At the development stage, the company verifies potential hazards of raw materials through MSDSs, and if classified as hazardous, undertakes research to identify and apply alternative substances. If raw materials already in use are later classified as hazardous, the R&D Planning Team updates the EU REACH Candidate List of Substances of Very High Concern (SVHC) and disseminates information to relevant departments, which are then guided to implement follow-up actions such as product improvements, raw material substitution, MSDS revisions, and facility-related measures.

### Non-Use of Persistent Organic Pollutants (POPs) and Mercury

Kukdo Chemical does not use POPs or mercury throughout its production processes and complies with domestic regulations to maintain a non-use and non-release system. Prior to introducing new raw materials or making equipment modifications, safety reviews are conducted to assess the potential for hazardous substance contamination.

### Efforts to Substitute Hazardous Chemicals

The company conducts research to substitute hazardous substances with environmentally sustainable or bio-based raw materials, while simultaneously evaluating both hazard levels and environmental compatibility during the development stage.

### Lawful Disposal of Hazardous Chemicals

Hazardous substances generated during production are stored and treated in full compliance with the 「Chemical Substances Control Act」 and the 「Wastes Control Act」.

### Training on Hazardous Chemicals

In line with the Chemical Substances Control Act, Kukdo Chemical provides safety training for hazardous chemical managers, handlers, and workers. In 2024, a total of 446 employees completed 6,670 training hours.

Category	2024	
	Persons	Total Hours
Handlers	393	6,288
Workers	64	206
Managers and Technical Staff	9	176

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# Product Stewardship

## Life Cycle Assessment (LCA) Management

### Introduction of LCA

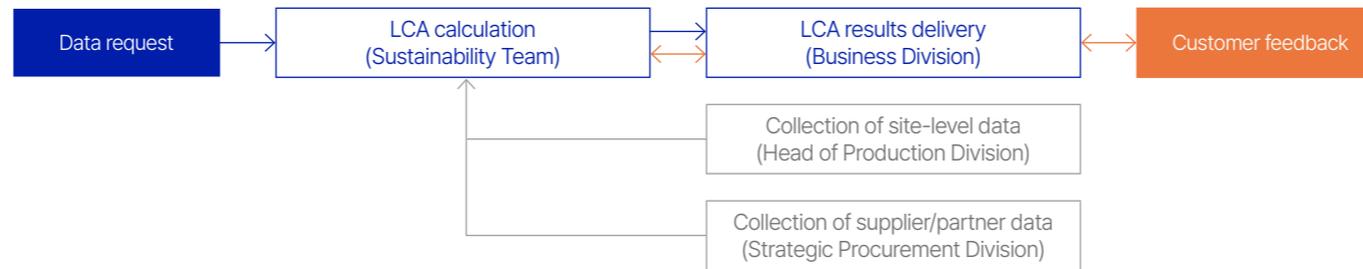
To systematically reduce the carbon footprint of its products, Kukdo Chemical began calculating product-specific Life Cycle Assessments (LCA) and Product Carbon Footprints (PCF) in 2024, in accordance with ISO 14040 and ISO 14067 standards. In 2024, LCA was conducted for 26 major epoxy products in collaboration with external consultants, while also building in-house expertise to enable internal staff to perform LCA independently.

From 2025 onward, Kukdo Chemical is gradually expanding the scope of assessments to include products requested by customers. Results will be updated annually and applied to product-level GHG emissions assessments and improvement initiatives.

### LCA Performance and Targets

Category	LCA Introduction	LCA Expansion
	2024 Results	2025 Targets
Scope of LCA	<ul style="list-style-type: none"> <li>LCA conducted through external consultants (21 products)</li> <li>Internalization of LCA capabilities</li> <li>In-house LCA performed (5 products)</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of in-house LCA tool</li> <li>Expansion of LCA to hardener and acrylate products</li> <li>Collection of PCF data from key raw material suppliers</li> </ul>
LCA Performance	26 products completed	50 products

### LCA Process



LCA (Life Cycle Assessment): A methodology for quantitatively analyzing the environmental impacts of a product across all stages from raw material extraction to manufacturing (Cradle to Gate).  
 PCF (Product Carbon Footprint): The total carbon emissions of a product across its lifecycle, from raw material extraction to production, transportation, and disposal.

## LCA Implementation Framework

### Adoption of GaBi Software

Kukdo Chemical has adopted GaBi, a globally recognized LCA software, to ensure the use of internationally standardized datasets and to enable LCA calculations based on multiple methodologies, including CML and EF.

### LCA Based on Latest Operational Data

The company regularly updates its LCA using the previous year's operational data from each business site, thereby building a framework that reflects current production conditions. This approach enables more precise calculation of product carbon footprints (PCFs) linked to actual operating conditions, while also providing reliable environmental data to support impact minimization efforts and respond to customer requests.

### Standardized Calculation Logic

To secure consistency and reproducibility of data outputs, site-specific LCA calculation tools have been established and applied. These tools incorporate the unique process and data management characteristics of each site, while systematically organizing product-specific assumptions and key variables. This ensures that repeated calculations and verifications can be carried out efficiently.

**Product-level GHG data (PCFs) are calculated in compliance with ISO 14067 and the GHG Protocol, and updated annually.**



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# Product Stewardship

## Circular Economy Management

### Process Innovation for a Sustainable Production System

Kukdo Chemical continuously implements process improvement initiatives across all business sites to enhance productivity and resource efficiency. Each business site identifies annual improvement tasks, achieving both cost savings and optimized use of energy and raw materials. To disseminate best practices across the entire group, including subsidiaries, the company regularly hosts the "Innovation Best Practice Awards." Outstanding cases identified at each business site are shared and recognized, encouraging employee participation and reinforcing the foundation for sustainable growth at the group level.

### Resource Efficiency through Dust Collection and Reuse

During the storage and supply of Bisphenol A (BPA), dust generated is captured using bag filter systems and reused as raw material. This practice strengthens resource circularity, optimizes raw material use, and contributes to the reduction of air pollutant emissions.

### Resource Recovery from Process Waste

Kukdo Chemical recovers residual amines from by-products generated during the production of hardener products and reuses them as raw materials. This practice converts waste that was previously outsourced for treatment into reusable inputs, thereby reducing the consumption of new chemicals and improving resource efficiency. It also helps lower outsourced waste volumes and contributes to reducing environmental management costs.

### Packaging Optimization to Reduce Environmental Impact

Kukdo Chemical has improved packaging efficiency by expanding the primary packaging units for certain products. By reducing the per-unit use of packaging materials, the company decreases unnecessary packaging, enhances logistics efficiency, and contributes to GHG emissions reduction. Over the long term, packaging optimization also supports waste reduction through the creation of a circular system. Since implementation, the initiative has achieved an average monthly reduction of approximately 4%, with peak reductions of up to 11% in packaging materials, delivering continuous environmental performance improvements.



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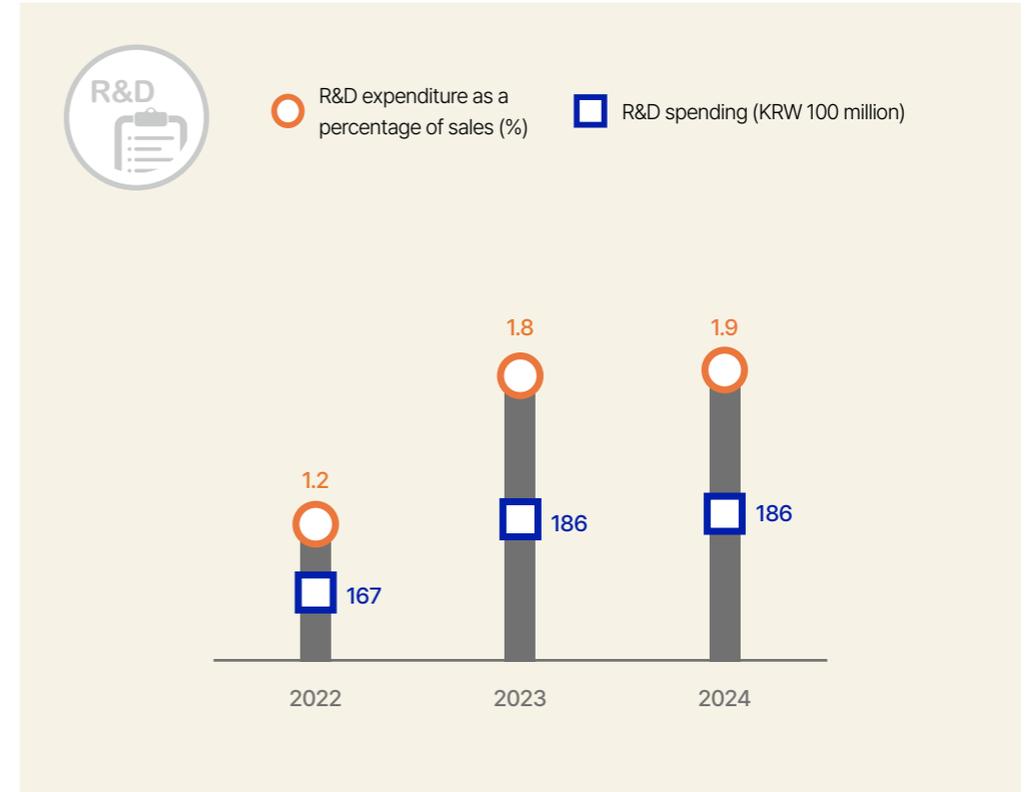
# Sustainable Product Innovation (R&D)

## R&D Organizational Structure

Kukdo Chemical's R&D organization consists of the central R&D Headquarters and research teams under each business division. The R&D Headquarters focuses on creating future value and securing long-term growth drivers by conducting research on advanced materials, fundamental technologies, and next-generation environmentally sustainable materials. The research teams within each business division concentrate on their core business domains and emerging commercialization areas. They respond swiftly to customer requirements and market changes, translating them into new product development. Through this structure, Kukdo Chemical integrates future-oriented innovation with market-driven R&D, thereby strengthening its competitiveness in environmentally sustainable and high value-added products.



## R&D Investment



Kukdo Chemical is intensifying efforts to develop high value-added products, high-purity materials, environmentally sustainable product lines, products adapted to evolving environmental regulations, and systemized resins for composites as a foundation for future growth. To achieve this, the company continues to expand its R&D investments and secure specialized talent.

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# Sustainable Product Innovation (R&D)

## Development of Bio-Based Sustainable Materials

To fulfill its environmental responsibilities, Kukdo Chemical is focusing on the development of bio-based materials that enhance sustainability. With growing demand and interest in bio-materials across industries, the company is increasing the share of biomass applications and expanding R&D to secure material technologies that leverage diverse bio-derived raw materials in chemical products.



### Status of Bio-Based Product Development

<p><b>Development of Isosorbide-Based Products</b></p>	<p>Isosorbide, a bio-based material obtained by chemically converting starch extracted from plant resources such as corn, has been successfully commercialized by Kukdo Chemical as the world's first 100% bio-based epoxy resin. The company continues to expand its product lineup and promote market adoption of these materials. In addition, isosorbide epoxy acrylate has been developed with potential applications as an environmentally sustainable UV coating material.</p>
<p><b>Development of Bio-Based Reactive Diluents</b></p>	<p>Leveraging biomass-derived furan derivatives, Kukdo Chemical has developed bio-based epoxy products with excellent properties such as low viscosity, strong adhesion, corrosion resistance, and fast curing. Thanks to their low viscosity and high adhesion, these products demonstrate potential as environmentally sustainable reactive diluents to replace substances classified as CMR (carcinogenic, mutagenic, reprotoxic). They are also expected to find applications across various industries.</p>
<p><b>Development of Bio-Based Feedstock Technologies</b></p>	<p><b>Lignin Epoxy Feedstock</b> Lignin, a by-product of the paper manufacturing process, is a renewable biomass material well-suited for carbon neutrality. Kukdo Chemical is developing epoxy feedstock technology that utilizes lignin's phenolic structure to achieve performance comparable to BPA-based materials. Through the introduction of cost-efficient processes, the company is pursuing bio-based epoxy materials that combine both high performance and economic viability.</p> <p><b>Bio-Based Adipic Acid</b> As part of a national research project, Kukdo Chemical is working on producing adipic acid—a key raw material for bio-based biodegradable plastics such as PBAT and PBS—from bio-based feedstocks. This effort aims to reduce environmental impacts by substituting fossil fuel-based inputs.</p>
<p><b>Development of Bio-Derived Semiconductor Packaging Materials</b></p>	<p>Through joint development with a domestic semiconductor materials company, Kukdo Chemical has applied bio-based epoxy resins and hardeners to create semiconductor packaging materials with performance equivalent to commercial epoxy systems. Going forward, the company aims to build a leading supply chain in environmentally sustainable semiconductor materials through further technological advancement. The material has already received positive customer evaluations for use in motor coatings, with future potential to expand into a wider range of electronic materials.</p>
<p><b>Development of Sustainable Mattress Materials</b></p>	<p>By applying 100% bio-based raw materials as key inputs, Kukdo Chemical has developed mattress materials with more than 30% bio-content in the final product. These products have obtained USDA Certified Biobased Product certification, earning international recognition for sustainability. Promotion is underway in the domestic market, with plans to expand the product lineup to generate greater sustainable value.</p>
<p><b>Development of Solid Insulation Materials for High-Voltage Switchgear</b></p>	<p>To meet the growing demand for high-voltage electrical equipment, Kukdo Chemical is developing environmentally sustainable alternatives using bio-based epoxy resins. By applying more than 70% bio-based epoxy in formulations, the company has achieved equivalent electrical, mechanical, and thermal performance to conventional products. The material has successfully completed demonstration testing in 154 kV Gas Insulated Switchgear (GIS) spacers. Kukdo Chemical will continue to expand its portfolio of environmentally sustainable insulating materials by increasing the use of bio-based raw materials.</p>

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# Sustainable Product Innovation (R&D)

## Development of Sustainable Mobility and Wind Turbine Blade Materials

### Sustainable Interior Materials for Electric Vehicles

To support vehicle lightweighting, Kukdo Chemical has developed low-density sustainable interior materials with approximately 33% lower density compared to those used in internal combustion engine vehicles. By reducing vehicle weight, these materials are expected to improve fuel efficiency and reduce GHG emissions, thereby contributing to the transition toward a sustainable mobility ecosystem. The company is further expanding the development of related products in response to the growth of the EV market.

### High-Performance, Flame-Retardant Materials for EVs

To localize powertrain components for electric vehicles (e-motor, inverter, DC-link capacitor, etc.), Kukdo Chemical has pursued joint development projects with leading domestic and global xEV manufacturers. In 2024, the company received its first approval for epoxy potting/molding materials, followed by additional approvals for second-generation flame-retardant materials in close collaboration with customers. These approvals have enabled the listing of Kukdo Chemical's products in automotive material specifications. By developing next-generation high-performance materials with superior heat resistance, thermal conductivity, adhesion, and reliability, the company is building a stronger foundation for business growth in the EV sector.

### Durable Polyurea Coatings for Wind Turbine Blades

To address reduced efficiency and shortened lifespan of wind turbine blades caused by erosion from rain, sand, and hail, Kukdo Chemical has developed durable and flexible polyurea-based protective coatings. Having completed laboratory-scale development, the company is preparing for field validation tests. The product offers strong resistance to external impact and abrasion, flexibility to withstand blade bending without cracking, and rapid curing for greater application efficiency. These attributes are expected to improve energy generation efficiency and reduce maintenance costs.

## Technology Development for the Circular Economy

### Epoxy Recycling System for Wind Turbine Blades

Following the recent EU ban on landfilling wind turbine blades, demand for recyclable materials has been increasing. In this context, Kukdo Chemical, in collaboration with global wind turbine manufacturers, has completed the development of recyclable thermoset epoxy-based vitrimer materials and recycling systems, with mass production now forthcoming. This project was designed to overcome the limitations of conventional thermoset materials through chemical decomposition, enabling reuse. As a result, blade materials that were previously discarded can now be recycled for new applications, contributing to resource circulation and environmental protection.

## ISCC PLUS-Certified Products

To contribute to a sustainable circular economy through expanded use of recycled and bio-based raw materials, Kukdo Chemical has adopted the International Sustainability and Carbon Certification (ISCC) PLUS system. In 2023, the company obtained ISCC PLUS certification for epoxy resin products at all domestic epoxy production sites (Iksan, Busan, and Sihwa Sites). In 2024, the certification scope was further expanded to include hardener products, strengthening the company's portfolio of certified sustainable products.



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# Sustainable Product Innovation (R&D)

## Development of Products for Hazardous Substance Reduction and Environmental Compliance

### Low-BPA Epoxy Resins

Conventional bisphenol A (BPA)-based epoxy resins contain several hundred ppm of residual BPA depending on molecular weight, and global regulations on BPA continue to tighten due to its hazardous properties. Kukdo Chemical has introduced a new process to dramatically reduce residual BPA levels to below 10 ppm. These low-BPA products are expected to meet the growing demand for reduced-BPA resins and to expand market presence as solutions aligned with evolving global regulations.

### Low-VOC Epoxy Resins for Marine Coatings

As air pollution control regulations become stricter each year, limiting volatile organic compound (VOC) emissions, the demand for sustainable coatings—particularly marine coatings—has been rising. Kukdo Chemical has responded by designing low-viscosity epoxy resins that minimize solvent use while still delivering high-performance properties suitable for marine coatings. Through this product lineup, the company is addressing both regulatory requirements and market expectations.

### Low-Temperature Curing U.H.S. Hardeners

To comply with increasingly stringent environmental regulations and protect worker health, Kukdo Chemical has developed ultra-high-solid (U.H.S.) epoxy hardeners designed for low-temperature curing. These products cure rapidly at lower temperatures while maintaining coating performance, ensuring both workability and safety. With solid content increased to over 85%, solvent use and VOC emissions are significantly reduced. In addition, by lowering free amine content, the formulations minimize skin irritation risks and enhance occupational health and safety.

### Waterborne Epoxy

Waterborne epoxy resins use water as the primary solvent, significantly reducing VOC emissions compared to traditional solvent-based epoxies. With lower odor and toxicity, they provide a more sustainable epoxy resin system that enhances worker safety and environmental performance. Kukdo Chemical's waterborne epoxy resins are regarded as effective alternatives for regulatory compliance and sustainability, with applications spanning marine and heavy-duty coatings, as well as civil engineering and construction materials.



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Kukdo Chemical operates a systematic occupational health and safety (OHS) management system, under which mandatory and job-specific training is regularly provided to all employees to proactively prevent workplace accidents and risks. In addition, to ensure responsible business practices with its partners, the company has implemented a sustainable procurement policy and a Supplier Code of Conduct. Through training programs and the establishment of practical guidelines, Kukdo Chemical strengthens compliance with these principles, thereby enhancing stakeholder trust in the company.

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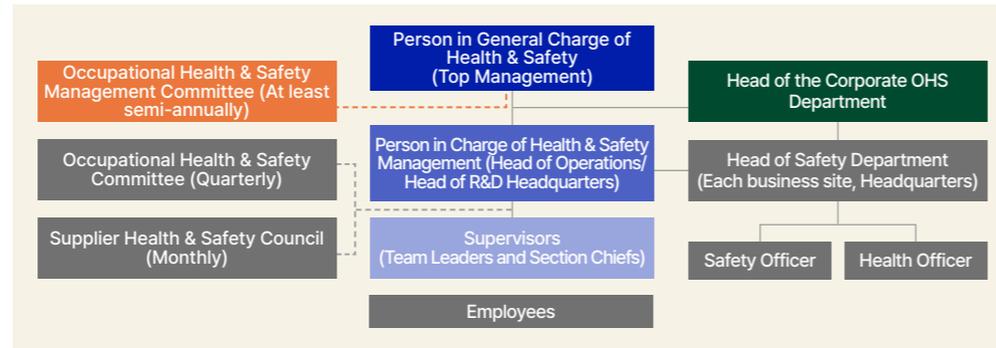
# Occupational Health & Safety Management

Material Topic – Rank 5

Safe Workplaces

## Occupational Health & Safety (OHS) Management Governance

Kukdo Chemical has established a company-wide Occupational Health & Safety (OHS) management system. Overall responsibility for OHS lies with top management, while each business site designates a Person in Charge of Health & Safety Management to oversee site-level OHS activities. The Occupational Health & Safety Committee—comprising an equal number of employee and management representatives—meets quarterly to discuss key OHS issues, with ad-hoc meetings convened as necessary to enable timely decision-making. In addition, each site operates a monthly Safety Committee led by the Person in Charge of Health & Safety Management, while top management chairs a monthly Safety Performance Review to continuously identify and address workplace risks.



## Occupational Health & Safety (OHS) Management Activities

Under the slogan “Safety Starts with the Basics”, Kukdo Chemical places the protection of the lives and health of its employees and stakeholders as its highest priority and implements a systematic Occupational Health & Safety (OHS) management system. Based on ISO 45001 and relevant regulations, the company has established a safety management framework to proactively prevent potential hazards and to respond swiftly in the event of an emergency, thereby minimizing risks and damages.

### Operation of the Occupational Health & Safety Committee and Management Council

Kukdo Chemical convenes the Occupational Health & Safety (OHS) Committee—comprising both employee and management representatives—on a quarterly basis to deliberate and decide on key safety agendas, while sharing implementation progress and future plans. In addition, meetings with contractors and site inspections are conducted at least monthly to systematically manage compliance with the Occupational Safety and Health Act. Separately, the company operates a Management Council, held at least semi-annually with the participation of key department heads, to discuss critical issues such as responses to serious industrial accidents and to strengthen the overall OHS management system.

### Serious Accident Prevention and Response System

Since 2022, Kukdo Chemical has established a dedicated organization for serious accident prevention and response, conducting semi-annual inspections and evaluations of legal compliance requirements and rigorously implementing follow-up improvement measures. The company has also developed a serious accident response manual, secured specialized personnel and available budget, and addressed hazardous factors to drive tangible improvements in workplace safety and the overall environment.

### ISO 45001 Occupational Health & Safety Management System Certification

As of 2024, six out of eleven production sites across Kukdo Chemical and its subsidiaries have obtained ISO 45001 certification. The company plans to expand certification coverage to seven sites by 2025, including the Hwaseong Site.

## Occupational Health & Safety (OHS) Management Strategy

Kukdo Chemical has declared a “Zero Accident” commitment, aiming to raise safety awareness among all employees and to achieve accident-free workplaces. To this end, the company provides monthly OHS training for all employees. In addition, annual health check-ups are conducted for 100% of employees, and Kukdo Chemical plans to continue offering this program to ensure comprehensive health coverage for its workforce. The company also carries out risk assessments for high-risk processes and new tasks, while strengthening its preemptive risk diagnosis system to prevent serious accidents.

## Enhancing Operational Safety in the Work Environment

In the past, Kukdo Chemical used color stabilizers classified as hazardous substances for product color management. However, to improve worker safety and reduce the handling volume of hazardous chemicals, the company transitioned to a process that eliminates the use of such substances starting in 2024. Going forward, Kukdo Chemical plans to expand this process across its entire product portfolio, thereby continuously enhancing workplace safety and strengthening its chemical management practices.

## Internal Audit of Process Safety Management (PSM)

Kukdo Chemical has adopted the Process Safety Management (PSM) system and conducts internal audits annually, with each business site evaluated and rated under the PSM grading system (M-, M+, S, P). The company reviews the implementation status of process safety reports in each department, identifies areas for improvement, and regularly monitors progress. Kukdo Chemical is pursuing initiatives across all business sites with the goal of achieving an “S” rating in the 2025 PSM evaluation.

## Safeguards and Regular Inspections for Hazardous Machinery

Kukdo Chemical ensures that protective devices are installed on hazardous parts of machinery, equipment, and facilities used by workers, and strictly manages their use during operations. The company also conducts regular inspections and maintenance to ensure that these protective devices remain fully functional. In addition, machinery classified as hazardous and subject to statutory safety inspections undergoes periodic testing to maintain compliance and operational safety.

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# Occupational Health & Safety Management

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## Occupational Health & Safety Risk Management

Kukdo Chemical identifies potential hazardous factors in advance and conducts Process Hazard Analyses (PHA) every four years to prevent accidents during operations. Job Safety Analyses (JSA) are carried out both on an ongoing basis and through an annual inspection. When introducing new processes or changing work procedures, additional assessments are conducted as needed to immediately reflect potential risk factors. Equipment safety inspections are performed in accordance with internal standards and inspection frequency is determined by risk level: Grade A—quarterly, Grade B—semi-annually, and Grade C—annually, in order to maintain compliance and safety. In 2024, a total of three safety incidents occurred. For each case of accident or occupational illness, Kukdo Chemical immediately established and implemented corrective measures to prevent recurrence, and disseminated the lessons learned across other sites to preemptively avoid similar incidents.

### Risk Management Process



## Activities to Promote a Safety and Health Culture

Kukdo Chemical operates safety culture programs aimed at raising employee safety awareness and achieving accident-free workplaces, with a strong focus on participatory activities. Based on voluntary participation, the company reinforces on-site implementation and fosters a sustainable safety culture by integrating the entire cycle—from training and communication to assessment and recognition.



### Regular Communication Activities

Kukdo Chemical publishes a monthly Safety Magazine featuring safety issues and fundamental rules, and shares Safety Talks twice a month on the company intranet, covering topics that resonate with all employees.



### Enhanced Tailored Training

Regular OHS training programs are provided by job category—including employees, partners, and new hires—with mandatory sessions (minimum of one hour) also offered to contractor workers.



### Participatory Campaigns and Assessments

Interactive activities such as quizzes and crossword puzzles are conducted periodically, with incentives and rewards offered to top participants to enhance employees' interest in safety. In addition, an annual safety awareness survey is carried out to assess the current state and identify areas for improvement.



### Recognition and Committee Operations

Outstanding individuals are recognized on a quarterly basis based on criteria such as near-miss reporting and compliance with safety rules. Furthermore, the monthly Safety Committee serves as a platform to share accident cases and improvement measures, promoting safety as part of daily practice.



### Near-Miss Reporting System

A QR code-based reporting system has been established to enable employees to quickly and easily report near-miss incidents anytime, anywhere. QR codes are posted in key areas such as cafeterias and break rooms to increase accessibility.



### Leadership Messaging

Safety messages from top management are distributed company-wide on a quarterly basis, reinforcing a leadership-driven safety culture.

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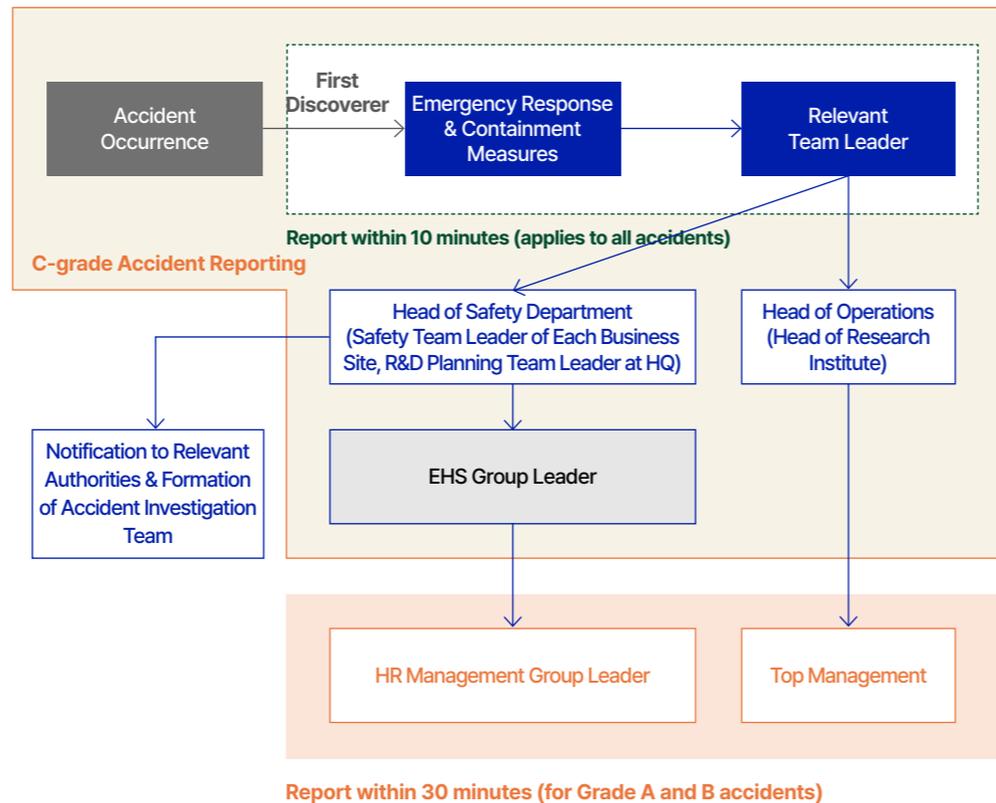
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## Occupational Health & Safety Incident Reporting Process

Kukdo Chemical has established an emergency communication system to ensure prompt and systematic responses to potential emergencies—including fires, explosions, and hazardous chemical leaks—that may occur among employees and partners. The company also conducts emergency response drills at least once a year. In 2024, Kukdo Chemical carried out a scenario-based simulation drill assuming a plant fire caused by a flammable substance leak. The drill was conducted under procedures identical to those of an actual incident, thereby strengthening company-wide emergency response capabilities.

### Accident Reporting Process



## Partners' Occupational Health & Safety (OHS) Risk Management

Kukdo Chemical has established the 'Supplier Health & Safety Guidelines' and operates the 'Supplier Health & Safety Council' to strengthen OHS management for partners across all sites and to clarify compliance requirements during operations. The council convenes monthly meetings to deliberate and decide on OHS-related agendas, and, through active communication, develops measures to eliminate hazards and prevent accidents. Workplace hazardous factors are continuously managed through environmental measurements and inspections. Prior to the commencement of contracted work, partners are provided with mandatory OHS training of at least one hour, which includes detailed instructions on safe work practices and emergency response procedures. Scenario-based drills are also conducted to enhance on-site response capabilities. Furthermore, Kukdo Chemical evaluates and verifies the OHS standards of partners from the selection stage. For partners with insufficient OHS management levels, the company recommends corrective actions and monitors the implementation of these improvements.

## Customer Health and Safety Management

Kukdo Chemical places product safety and the protection of customer health as its top priorities, ensuring strict compliance with relevant regulations throughout the entire product lifecycle. In line with EU REACH (Registration, Evaluation, Authorization and Restriction of Chemicals), the company registers and manages hazardous substances, and supports safe use by preparing and providing product-specific Material Safety Data Sheets (MSDS) to customers. From the sample testing stage, the R&D Headquarters prepares MSDSs for newly designed and developed chemical substances. Prior to mass production or commercialization, Kukdo Chemical fully complies with registration procedures under the Act on the Registration and Evaluation of Chemicals (K-REACH), including the submission of hazard data, risk assessment data, and safe use guidelines. To further strengthen customer trust and ensure continuous regulatory compliance, the company has established both qualitative and quantitative goals related to customer health and safety. An MSDS is provided for 100% of products shipped, a practice that Kukdo Chemical is committed to maintaining. In addition, the company achieves 100% annual implementation of pre-launch hazard reviews for new products. Furthermore, the company strengthens its customer safety management system by setting and monitoring annual targets for the collection of safety-related feedback from customers and the number of improvement measures implemented in response.

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# Talent Management & Development

## Human Resource Management

Kukdo Chemical has established HR systems that enable all employees to perform to their full potential in a healthy and safe environment, while pursuing both individual growth and the long-term sustainability of the organization. The company operates a talent strategy that includes a career development framework based on fair evaluations, fosters an organizational culture rooted in diversity and inclusion, and implements mid- to long-term talent acquisition policies to cultivate the next generation of leaders.

### Enhancing Working Conditions

Kukdo Chemical supports work-life balance through systems such as flexible work arrangements, parental leave, and family care programs. To promote employees' mental and physical well-being, the company provides psychological counseling and workshops, while also operating practical health programs including regular medical check-ups, noise exposure prevention training, musculoskeletal disorder prevention programs, and stress management initiatives. The company has also established policies to prevent workplace harassment and discrimination, offering regular training and ensuring immediate response through grievance-handling channels. In addition, Kukdo Chemical supports employees' financial and personal stability through various welfare benefits, such as tuition assistance for children, access to resort facilities, vacation subsidies, welfare points, housing loan support, family event allowances, and congratulatory payments for marriage and childbirth.

### Education and Competency Development

Kukdo Chemical supports step-by-step growth for employees—from new hires to mid-level managers and senior leaders—through a tailored training system based on job level and function. The company designs training programs that strengthen professional expertise and facilitate role transitions, fostering a virtuous cycle of learning, practical application, and feedback.

### Career Management

Kukdo Chemical operates a systematic career management program that supports competency development and professional growth throughout all career stages, including recruitment, evaluation, training, and job rotation. Based on performance and competency data, the company designs career pathways and enhances execution capabilities by linking rotational assignments and project tasks, particularly for core talent. In addition, Kukdo Chemical operates early identification and development programs for next-generation leaders, thereby strengthening leadership cultivation and building a sustainable foundation for organizational leadership.

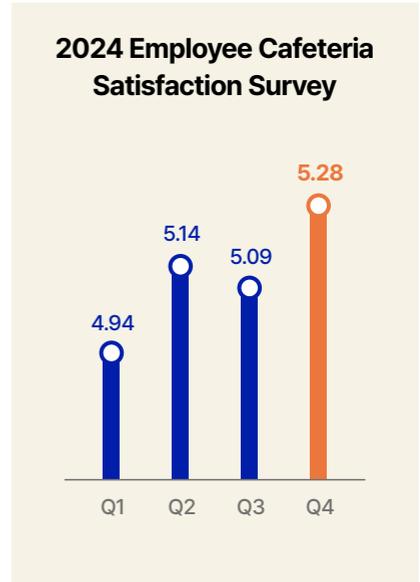


## Employee Performance, Competency, and Evaluation

Kukdo Chemical integrates annual performance and competency evaluations to systematically manage employee development and organizational contributions. The performance evaluation process consists of three stages: goal setting at the beginning of the year, a mid-year review, and a year-end comprehensive evaluation. This process assesses both goal achievement and competency development, providing employees with specific feedback. Annual salary adjustments are discussed between the company and employees through the Labor-Management Council and communicated to all staff, thereby enhancing the transparency and fairness of the evaluation system. Based on this framework, Kukdo Chemical fosters a performance-driven culture while promoting both continuous employee growth and organizational development.

## Employee Satisfaction Enhancement Initiatives

Kukdo Chemical aims to provide a highly satisfying work environment by actively reflecting employee feedback. As part of its human resource management efforts, the company conducts regular employee satisfaction surveys. In particular, a quarterly (four times a year) cafeteria satisfaction survey is carried out for employees at the company headquarters (Kukdo Chemical Co., Ltd. Head Office). The survey covers six evaluation criteria: taste, portion size, menu variety, facilities, hygiene, and service. As of 2024, Kukdo Chemical conducts one welfare-related satisfaction survey and plans to expand this to more than three surveys annually by 2030, in addition to the cafeteria survey, to cover broader welfare-related areas. The average score for Q1-Q4 of 2024 was 5.11 out of 7. Survey results are reported to department heads, and feedback—including open-ended comments—is translated into concrete improvement actions to enhance the quality of in-house food and beverage services.



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# Talent Management & Development

## Human Resource Training System and Implementation Status

Kukdo Chemical continuously strengthens employees' professional expertise and leadership competencies through company-wide, structured training programs. Tailored training is planned and delivered according to job functions and levels, enabling employees to internalize the capabilities needed to adapt flexibly to a changing business environment. In 2024, training programs were designed and implemented on a wide range of topics, including domestic and global economic outlooks, change management, AI-based business strategies, conflict management, and strategic planning. As part of building a foundation for ethical management, Kukdo Chemical also provides annual ethics training to all employees on a regular basis. The existing "Anti-Corruption and Anti-Bribery Training" was expanded and reinforced to include the following subjects:

- January: Understanding compliance and compliance management systems**
- March: Interpretation of China's Counter-Espionage Law and key considerations in contract execution**
- April: Preventing workplace harassment to foster a healthy organizational culture**
- June: Components and application cases of anti-corruption management systems**
- November: Embedding behavioral standards based on anti-corruption policies and internal regulations**

These training programs are delivered regularly according to a pre-established annual plan. Upon completion, participant feedback is collected through satisfaction surveys and incorporated into continuous program improvement. In addition, training outcomes and participation data are systematically managed to raise company-wide ethical awareness and reinforce a sustainable foundation for talent development.

### 2024 Training Programs Overview

Category	Program	Responsible Department	Target Participants	Schedule	Annual Training Hours	Training Format	Instructor / Institution
Onboarding Training	New Employee Orientation		New Employees	As needed	8 hours	Classroom	In-house
	Workplace Harassment Prevention	HR Management Group		October	1 hour	Online	External Institution
Statutory Mandatory Training	Sexual Harassment Prevention		Safety Team	All Employees	April	1 hour	Online
	Disability Awareness Training	December			1 hour	Online	External Institution
	Safety / Health Training	Monthly			12 hour	Classroom	External Institution
Job Training	Career Development Training	HR Management Group		As needed	Variable	Classroom	In-house
External Training		Relevant Department		As needed	Variable	External Training	External Institution

## Organizational Culture and Employee Engagement

Kukdo Chemical operates various systems to create a work environment where employees can engage with autonomy and flexibility. The company has introduced a free-seating system to foster interdepartmental collaboration and communication, thereby enhancing both creativity and work efficiency. Regular job rotation programs are implemented to support employees' career development and strengthen professional expertise. By facilitating interdepartmental transfers, the company provides diverse job experiences and reinforces its talent development framework through internal staffing assignments (e.g., transfer from CV Service Team to SCM Planning & Management Team). Kukdo Chemical also engages in regular dialogue between employee representatives and the company to discuss key labor conditions, including employee health, workplace environment improvements, training, and welfare benefits. The company aims to foster a cooperative labor-management culture by creating an environment where all employees can freely express their opinions and by ensuring the implementation of agreed-upon matters. In line with the company's Operational Guidelines for Worker Participation and Labor-Management Council Operations, Kukdo Chemical aims to convene Labor-Management Council meetings at least four times a year and currently holds quarterly meetings at each business site. The outcomes of these meetings are reflected in tangible improvement actions to ensure that the issues discussed lead to practical enhancements in the workplace.



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# Sustainable Procurement

## Supply Chain Management Structure and Roles

Since 2024, Kukdo Chemical has directly conducted sustainability assessments of key raw material and component suppliers under the leadership of the Sustainability Team. These assessments are based on the company's sustainable procurement policy. Unlike traditional procurement procedures, the evaluations are carried out through direct communication between the Sustainability Team and suppliers, without passing through the Strategic Procurement Division. Through this process, the company gains an in-depth understanding of suppliers' sustainability practices. Suppliers with strong performance are granted incentives through the Strategic Procurement Division, while those with weaker results are requested to make improvements; if deficiencies persist, restrictions on transactions may be considered. Best practices from high-performing partners are benchmarked and incorporated into Kukdo Chemical's own sustainability initiatives. Beginning in 2025, the scope and depth of the assessments will be expanded to strengthen the company's ability to manage sustainability risks across the entire supply chain and to reinforce the foundation for building a sustainable value chain.

## Supply Chain Management Strategy

Kukdo Chemical operates a fair and responsible procurement system to strengthen sustainability across its supply chain. The company gives priority consideration and incentives to socially disadvantaged enterprises, such as women-owned and disability-owned businesses, in line with its sustainable procurement policy. Kukdo Chemical avoids transactions with companies that violate labor, human rights, social, or environmental regulations, and incorporates responsible management criteria—including human rights, environment, and occupational health and safety—into contractual conditions to raise ethical standards across the supply chain. Since 2024, the company has conducted annual sustainability assessments of key raw material suppliers. The evaluation consists of 50 indicators across the environmental, social, and governance (ESG) dimensions. Results are used to assess the sustainability performance of suppliers and to inform improvement strategies. These assessments serve not only as a risk management tool but also as a strategic measure for long-term shared growth. Going forward, Kukdo Chemical plans to expand the scope of suppliers subject to evaluation, thereby systematizing supply chain risk management capabilities and reinforcing the foundation for building a sustainable value chain.

Selection Criteria	Response Method	Evaluation Weighting	Application
Suppliers of raw materials are selected based on transaction volume, continuity, and potential for future business expansion.	Data are collected through a self-assessment questionnaire covering 50 items across Environmental (E), Social (S), and Governance (G) dimensions.	Greater weighting is assigned to environmental and social dimensions to reflect the characteristics of the manufacturing industry.	Evaluation results are reflected in sustainability improvement strategies and partner management standards.

## Supply Chain Management Activities

Kukdo Chemical promotes a systematic supply chain management strategy that integrates policies, assessments, and ethical standards to strengthen sustainability across its supply chain. The company operates a Supplier Code of Conduct, which sets out key principles in business ethics, human rights, environmental protection, occupational health and safety, and sustainability systems. As of 2025, approximately 38% of suppliers have submitted signed commitments. Starting in 2026, the actual implementation of the Code of Conduct will be linked to sustainability assessment criteria and incorporated into contractual conditions, advancing risk management based on quantitative evaluations. During contract execution, suppliers are required to comply with major laws—including the 'Improper Solicitation and Graft Act', the 'Monopoly Regulation and Fair Trade Act', the 'Unfair Competition Prevention and Trade Secret Protection Act', and the 'Personal Information Protection Act'—and are pre-notified of potential sanctions in the event of violations.

To enhance transparency and fairness, Kukdo Chemical operates a "Whistleblowing" channel on its website, enabling partner employees to anonymously report undue requests or solicitations. All reports are handled with strict confidentiality to protect whistleblowers' identities. The company is currently reviewing support activities such as supplier incentive programs, sustainability training, and improvement initiatives. In addition, it plans to develop capacity-building programs linked to assessment results to establish a sustainable supply chain grounded in strong partnerships.

Category	Unit	2024	2025	2027 Targets
Suppliers subject to evaluation	Companies	25	29	40
Suppliers evaluated	Companies	18	16	28
	%	72	55	70
Suppliers that submitted the Supplier Code of Conduct	Companies	0	11	20
	%	0	38	50

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# Human Rights

## Human Rights Governance & Due Diligence

Kukdo Chemical operates a company-wide collaboration system to ensure respect for human rights through a structured governance framework, with clearly defined roles and responsibilities across departments to secure execution capability. The Sustainability Team oversees the development of human rights strategies and human rights impact assessments, leading the formulation of strategic roadmaps and execution management. Beginning in 2025, the company will conduct annual human rights impact assessments to systematically identify human rights risks and embed processes for deriving and implementing improvement measures. The HR Management Team is responsible for operating employee welfare programs and handling HR-related grievances, thereby contributing to continuous improvements in the working environment through institutional enhancements. The Talent Development Team provides regular training programs aimed at strengthening employees' sensitivity to human rights and leadership capabilities, thereby raising awareness and promoting a culture of respect for human rights across the organization. The Audit Team independently investigates serious grievances such as workplace harassment and sexual harassment, and when necessary, implements follow-up actions including disciplinary measures and recurrence prevention, reinforcing the company's internal human rights protection system.

## Human Rights Goals and Implementation Roadmap

### A. 2025: Establish a Human Rights Governance & Due Diligence Framework

Kukdo Chemical will begin conducting full-scale human rights impact assessments and use the results to identify areas for improvement. The company has set mid- to long-term objectives through 2028 and established a phased improvement roadmap.

### B. 2026 - 2027: Advance the Human Rights Governance & Due Diligence Framework

Human rights impact assessments will be expanded to cover both domestic and overseas affiliates. In addition, Kukdo Chemical will introduce human rights assessments for partners, linking the results to contractual conditions as part of its supply chain due diligence.

### C. 2028: Embed a Culture of Human Rights Governance & Due Diligence

By 2028, human rights practices will be embedded into the corporate culture across all affiliates. The company also plans to identify and disseminate internal best practices to establish a company-wide human rights governance system.

## Human Rights Governance & Due Diligence Strategy

Kukdo Chemical regards respect for human rights as a core corporate value and, in line with the guidelines of the National Human Rights Commission of Korea, conducts human rights impact assessments to proactively prevent potential risks to employees and stakeholders. In 2025, based on assessment results, the company established concrete action plans, including diagnosing human rights practices of suppliers, expanding the inclusion of human rights protection clauses in supply chain contracts, and strengthening responses to human rights risks in outsourced security services. Going forward, Kukdo Chemical will expand the scope of assessments in line with its phased roadmap and continue to refine systems to embed human rights performance across its operations. The company has adopted a human rights policy that explicitly incorporates the "Principle of Respect for Human Rights" and includes both qualitative and quantitative commitments—such as prohibiting child labor, forced labor, and human trafficking, as well as promoting diversity, equity, and inclusion—to clarify its corporate responsibilities. Furthermore, Kukdo Chemical is considering the inclusion of a "Prohibition of Excessive Use of Force" provision to further align with international human rights standards. From a compensation perspective, the company ensures that all employees at its domestic sites receive wages above the living wage. Each year, wage levels are benchmarked against the local living wage standards to verify compliance.

### Annual Goals and Achievements

2025		2026 - 2027		2028
Goal	Achievement	Goal	Quantitative Target	
Conduct human rights impact assessment for Kukdo Chemical	Completion of human rights impact assessment for Kukdo Chemical	Expand human rights impact assessments to domestic and overseas affiliates	Expand human rights impact assessments to domestic and overseas affiliates	

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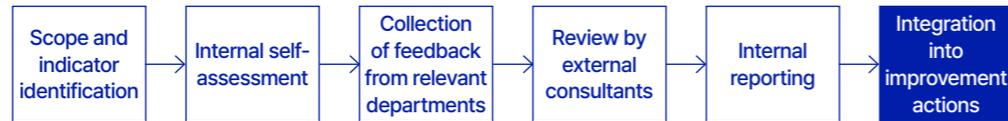
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# Human Rights

## Human Rights Impact Assessment

Kukdo Chemical regards respect for human rights as a core operating principle and conducts regular human rights impact assessments to advance its human rights governance framework. The assessments focus on ten key categories: human rights governance & due diligence, non-discrimination in employment, freedom of association and collective bargaining, prohibition of forced and child labor, occupational safety, responsible supply chain management, protection of local communities, the right to a healthy environment, and consumer rights protection. In 2024, the human rights impact assessment was conducted against 158 indicators. The results confirmed 116 items as compliant, 9 items requiring improvement, and 28 items deemed not applicable. The improvement tasks identified from this process are integrated into the company's human rights roadmap and will be implemented through systematic improvement initiatives going forward.

### Human Rights Impact Assessment Process



## Human Rights Governance & Due Diligence Roadmap

Phase	2025	2026 - 2027	2028
Objective	Establish a Human Rights Governance & Due Diligence Framework	Advance the Human Rights Governance & Due Diligence Framework	Embed a Culture of Human Rights Governance & Due Diligence
Key Initiatives	<ul style="list-style-type: none"> <li>Conduct human rights impact assessments</li> <li>Identify areas for improvement in respect for human rights</li> <li>Develop phased improvement plans toward 2028</li> </ul>	<ul style="list-style-type: none"> <li>Expand the scope of human rights impact assessments</li> <li>Strengthen human rights practices across domestic and overseas affiliates</li> <li>Link partner / supplier evaluation results to contractual conditions</li> </ul>	<ul style="list-style-type: none"> <li>Embed respect for human rights into the organizational culture across all affiliates</li> <li>Share best practices on human rights</li> <li>Establish a company-wide human rights governance system</li> </ul>

## Human Rights Risk Mitigation Activities

Kukdo Chemical conducts regular human rights training to support both the prevention and remediation of human rights risks, and operates a grievance-handling system to address incidents of sexual harassment, sexual violence, discrimination, forced labor, child labor, and other human rights violations.

The reporting mechanism is accessible not only to employees but also to partners and other third parties. Reports are managed through a structured process of reporting → investigation → review and action → monitoring to ensure appropriate responses.

Depending on the outcome of the review, disciplinary actions—such as warnings, pay reduction, suspension, demotion, or dismissal—are carried out in accordance with procedures and standards defined in the company's internal regulations. All whistleblowers' identities and reports are kept strictly confidential, and under the company's 'Whistleblower Handling Regulations', protection measures are in place to ensure that no disadvantages or discrimination arise as a result of reporting.

## Human Rights Training and Anti-Discrimination Initiatives

Kukdo Chemical systematically implements human rights training and anti-discrimination initiatives for all employees to embed the value of respect for human rights across the organization.

### 1. Human Rights Training Programs

To raise awareness company-wide, Kukdo Chemical regularly conducts the following human rights training programs:

- Prevention of child labor, forced labor, and human trafficking: Conducted at least once a year for all employees
- Diversity, equity, and inclusion (DEI) training: Conducted at least once a year for all employees
- Prevention of sexual harassment and workplace bullying: Conducted at least once a year for all employees
- Awareness training on persons with disabilities, the Personal Information Protection Act, and occupational health and safety: Conducted on a regular basis



### 2. Anti-Discrimination Measures

Kukdo Chemical implements a range of measures to eliminate discriminatory factors across all HR processes and to ensure fair opportunities:

- Operates regulations prohibiting unjustified discrimination in all HR stages—including recruitment, placement, transfers, and promotions
- Uses performance- and competency-based evaluation scores to ensure fairness in selecting candidates for training opportunities and promotions
- Monitors gender pay gap ratios to maintain an equal pay system
- Provides pre-interview training for interviewers to prevent discrimination based on gender, age, education, place of origin, political orientation, personal networks, or family background

### 3. Prevention of Child Labor, Forced Labor, and Human Trafficking

Kukdo Chemical operates systems to prevent forced labor and underage employment in advance. During recruitment, applicants' ages are verified to ensure that no one under the age of 15 can be employed. While the company does not hire workers under the age of 15, it also prohibits the extension of working hours and night work for young workers, in accordance with internal regulations. In addition, employees are required to retain their own identification documents, thereby preventing any possibility of forced labor.

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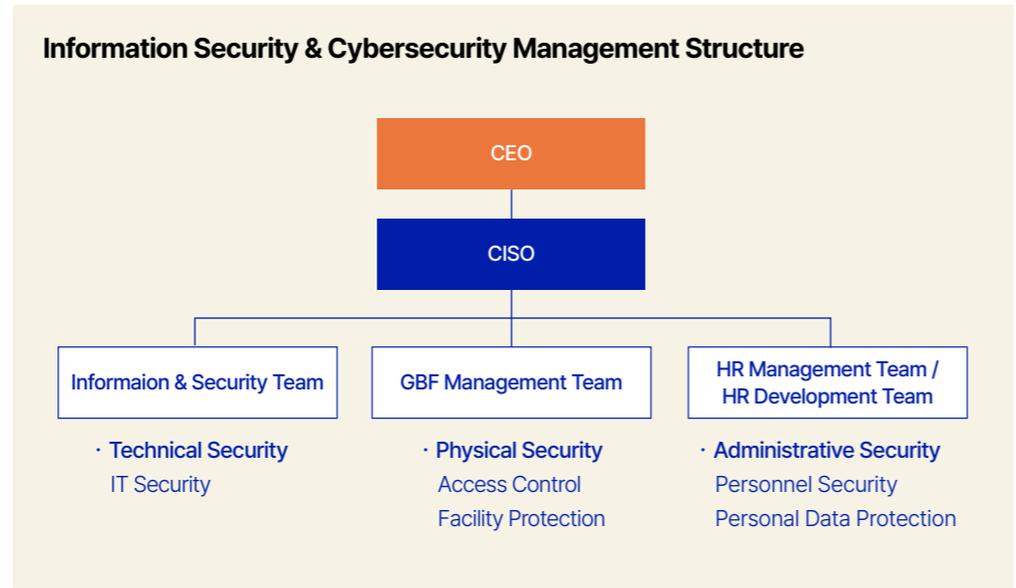
# Information Security & Cybersecurity

## Information Security & Cybersecurity Management System

Kukdo Chemical has established an enterprise-wide information security and cybersecurity management system and designated the Chief Information Security Officer (CISO) as reporting directly to the CEO, thereby strengthening its security governance. Information security and cybersecurity are divided into three domains—technical, physical, and administrative—each managed by specialized departments.

<b>Technical Security</b>	The Informaion & Security Team is responsible for operating security of information systems, networks, and IT assets, as well as responding to cyber threats.
<b>Physical Security</b>	The GBF Management Team oversees building access control, operation of security equipment, and overall facility security.
<b>Administrative Security</b>	The HR Management Team and the HR Development Team conduct employee awareness and personal data protection training, and manage the establishment of information security policies and internal controls.

Information security and cybersecurity issues are regularly monitored and reviewed within the company-wide risk management framework, ensuring the operation of a systematic system for the prevention and response to security incidents.



## Information Security & Cybersecurity Strategy

Kukdo Chemical complies with the Personal Information Protection Act and other relevant regulations, operating an enterprise-wide information security management system to ensure the confidentiality and integrity of its key information assets. All information is safeguarded under internal regulations and the oversight of the Chief Information Security Officer, with regular monitoring and security checks in place to minimize potential risks. In 2024, the Company conducted enterprise-wide vulnerability assessments and risk evaluations, strengthening system security through continuous monitoring and corrective actions. In 2025, Kukdo Chemical is enhancing security awareness through 100% employee submission of Information Security Commitments and quarterly security bulletins. In addition, the Company conducts at least one vulnerability assessment or simulation drill annually to strengthen cyber threat response capabilities. Going forward, Kukdo Chemical aims to maintain zero information security incidents as a quantifiable target and will reinforce internal controls and preventive measures accordingly. The Company is also reviewing the disclosure of its information security policies and management system as part of its sustainability practices to enhance stakeholder trust.

## Information Security & Cybersecurity Activities

Kukdo Chemical promotes a wide range of initiatives to safeguard its information assets. The Company conducted penetration testing-based vulnerability inspections through the Korea Internet & Security Agency (KISA), applying actual hacking techniques to test external services and internal infrastructure. Identified vulnerabilities were remediated to strengthen system security. For incident response, a structured framework—detection → analysis → response → recovery → post-incident evaluation—was established. This framework includes predefined countermeasures by incident type, designated responsible personnel, evidence retention protocols, and cooperation procedures with relevant authorities, enabling swift and systematic responses. A risk management system that regularly identifies, evaluates, and remediates vulnerabilities is applied across IT systems, networks, and internal information assets. Employees are required to report any threats or anomalies immediately, which are then reviewed and addressed by responsible personnel.

To raise employee security awareness, Kukdo Chemical conducted a company-wide Information Security Pledge Campaign with 874 out of 920 employees participating (95% completion rate). Non-participants received follow-up training and guidance. In 2024, the Company also issued three security bulletins on phishing and spam mail, sharing recent cyber threat cases and countermeasures. Personal data are stored for up to five years in compliance with legal standards and securely disposed of after the retention period. Technical and physical safeguards—including access rights management, encryption, and intrusion prevention systems—are implemented to protect data. The number of employees handling personal data is minimized, with quarterly internal audits to monitor compliance. When personal data are provided to third parties, prior consent is obtained, and data are destroyed immediately after the intended purpose is fulfilled. Confidential information is further protected through access controls and document security to prevent unauthorized disclosure.

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# Community Engagement

## Community Engagement: Vision and Strategy

Since its founding in 1972, Kukdo Chemical has been guided by its seven core management philosophies, one of which is the "Responsibility to the Nation and Society." Based on this principle, the company has continuously advanced social contribution initiatives to create value for the nation and local communities. Going forward, Kukdo Chemical will continue to expand community engagement and social contribution activities in close collaboration with diverse stakeholders, thereby fulfilling its corporate social responsibility and creating shared value.

## Community Engagement activities

Kukdo Chemical continues to advance social contribution initiatives across diverse areas, including community well-being, environmental protection, and animal welfare. In particular, the company actively participates in joint volunteer programs in collaboration with the UN Global Compact (UNGC) Korea Association, thereby expanding the external implementation of its sustainability practices.

2024 Volunteer Activity at Stray Dog Shelter



**Overview**

On April 19, 2024, the Sustainability Team participated in the "Stray Dog Volunteer Day" organized by the UN Global Compact (UNGC) Korea Association. The activity was held at the Yongin Rainbow Shelter and aimed to improve the shelter environment and care for stray dogs. A total of 13 member companies, including Kukdo Chemical, joined the initiative.

**Key Activities**

- Cleaning dog shelters
- Feeding and watering
- Supporting socialization training

**Outcomes**

The activity contributed to stray dog protection and enhanced animal welfare. It was recognized as a meaningful collaborative initiative that demonstrated social responsibility through private network cooperation among member companies.

2025 Plogging Volunteer Activity in Yeongjongdo



**Overview**

On May 23, 2025, the Sustainability Team participated in the "Plogging Volunteer Day" organized by the UN Global Compact (UNGC) Korea Association, carrying out coastal cleanup activities around Incheon Yeongjongdo Beach. Plogging—a combination of plocka upp (to pick up in Swedish) and jogging—is an activity that promotes both health and environmental protection. A total of nine member companies joined the event.

**Key Activities**

- Collecting coastal waste
- Sorting and disposing of collected waste

**Outcomes**

The activity contributed to reducing carbon emissions in daily life and spreading a voluntary culture of practicing sustainability management. It also provided an opportunity to enhance employees' environmental awareness.

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# Community Engagement

## Community Engagement activities

Environmental Restoration Activity – “Jip-ssi-tong Project”



**Overview**

62 employees of Kukdo Chemical participated in the Jip-ssi-tong Project (Seed Log Pot Project), a community engagement program in collaboration with the Seoul Noeul Park Citizen Group. Employees planted acorn seeds in recycled log pots called “Jip-ssi-tong” and raised them for approximately 100 days at home or in the office, after which the saplings were delivered to the Tree Nursery at Noeul Park.

**Key Activities**

- Planting acorn seeds and raising them for 100 days
- Delivering and planting saplings at Noeul Park

**Outcomes**

Approximately 90 acorn saplings contributed to restoring the soil of Nanjido, a former landfill site, and revitalizing the urban ecosystem. This initiative also demonstrated the value of environmental stewardship through collaboration with civic organizations.

Community Support for Vulnerable Groups



**Overview**

Kukdo Chemical continues to implement customized social contribution programs to support marginalized groups in local communities near its operations. Each major site pursues community-based initiatives to promote mutual growth with local residents.

**Key Activities**

- Iksan Site: Donated automated rooftop opening-and-closing devices to vulnerable households in the local community
- Customer Engagement: Partnered with Customer “D” to organize physical activity programs for students from special schools for students with developmental disabilities
- Siwha Site: Conducted environmental cleanup activities and hosted a charity bazaar for underprivileged residents

**Outcomes**

Through community-based initiatives led by major operations, Kukdo Chemical contributed to tangible improvements in local living environments. These activities also served as opportunities to strengthen collaboration with customers and communities.

Overseas Subsidiary Community Engagement Activities (Kukdo Chemical, Kunshan, China)



**Overview**

Kukdo Chemical (Kunshan), its local subsidiary in China, implements a variety of community engagement programs focused on welfare, education, and environmental protection for local residents.

**Key Activities**

- Donated daily necessities to households with persons with disabilities
- Organized holiday and birthday events for elderly people without family support
- Conducted environmental cleanup activities around the plant area
- Donated funds to a Korean school in China
- Provided scholarships to outstanding students at the Chemical Industry Vocational College

**Outcomes**

Kukdo Chemical (Kunshan) contributes to improving community welfare and expanding educational opportunities. By practicing sustainability management at a global standard and fulfilling corporate social responsibility, the subsidiary has strengthened positive brand trust in the local community.

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Kukdo Chemical is strengthening transparent governance and reporting systems to advance sustainability management. Through materiality assessments and indicator management, the company identifies and analyzes key issues, while refining related policies and procedures to enhance execution across enterprise-wide priorities such as environment, safety, and procurement. In addition, Kukdo Chemical operates internal review and verification processes to enhance the reliability of reported data and continuously carries out improvement activities to meet the expectations and requirements of stakeholders.

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# Board Structure & Composition

## Board of Directors

To achieve sustainable growth and responsible business practices, Kukdo Chemical appoints directors with diverse experience and expertise across specialized fields. Executive Directors are drawn from professionals with expertise in core functions such as the chemical industry, production, procurement, human resources, and finance. Independent Directors are appointed after a thorough review to ensure they meet all legal requirements, bringing expertise in areas such as finance, management, and ESG. Although Kukdo Chemical is a non-listed company with total assets of less than KRW 2 trillion, it has enhanced board diversity by appointing female Independent Director. To further strengthen independence and expertise, individuals without business relationships with the company are appointed as Independent Directors, and the board complies with the legally required proportion of Independent Directors. The CEO has been delegated authority from the board to oversee key ESG-related decision-making, including the development of the company's sustainability strategy and performance management. As the CEO was newly appointed this year, sufficient data on capacity-building support for enhancing sustainability expertise have not yet been accumulated and are therefore not included in this report.

## Board Remuneration and Evaluation

The remuneration of the Board of Directors is executed within the total compensation limit approved by the General Meeting of Shareholders, in accordance with the company's executive remuneration policies. Executive Directors are evaluated based on annual performance indicators such as job performance and sales results, and their compensation is determined accordingly. Going forward, Kukdo Chemical plans to review the introduction of an evaluation system for Independent Directors, taking into consideration their responsibilities and the level of risk associated with their duties. The company will also consider introducing remuneration policies that reflect such evaluations.

## Board Structure & Composition

Category	Name	Gender	Term Start	Term End	Area of Expertise	Key Experience
Executive Director	Si Chang Lee	Male	Mar. 2023	Mar. 2026	Business Management	Former Head of Corporate Planning, Kukdo Chemical / Current Chairman & CEO, Kukdo Chemical
	MS Hwang	Male	Jan. 2025	Jan. 2028	Business Management	Former CEO, SABIC Korea / Current President & CEO, Kukdo Chemical
	Jin Bae Jung	Male	Mar. 2023	Mar. 2026	Research	Former President, Jaewon Industries / Current Head of R&D Headquarters and Director of Future Materials Technology Research
Non-Executive Director	Kyung Eop Won	Male	Mar. 2025	Mar. 2028	Management, Finance	Former Head of Corporate Planning, Kukdo Chemical / Current Head of Finance Group, Kukdo Chemical
	Chihiro Hatano	Male	Mar. 2024	Mar. 2027	Business Management	Deputy General Manager, Functional Resins & Substrate Materials Division, Nittetsu Chemical & Material
Independent Director	Young Jae Ryu	Male	Mar. 2023	Mar. 2026	Management, ESG	Former Chairman, Korea Corporate Governance Forum / Current CEO, Sustinvest
	Jong Dae Kim	Male	Mar. 2024	Mar. 2027	Management, ESG	Former Professor, Department of Business Administration, Chungbuk National University / Current Emeritus Professor, Inha University
	Hee Sook Lee	Female	Mar. 2023	Mar. 2026	Management, Finance	Former CFO, BIOCS / Current CEO, Hee & Partners

## Board Activities on ESG

Reports to the Board of Directors on key ESG agenda items have been made as follows:

### Board of Directors – Q1 2024 Report on Business Plan for Occupational Health & Safety

**Key Agenda Items**

- Establishment of the occupational health and safety management policy
- Sharing of health and safety strategy and annual targets
- Report on organizational structure, role definitions, budget allocation, and facility operations
- Presentation of the 2024 occupational health and safety implementation plan

### Board of Directors – Q4 2024 Report on Compliance Activities

**Key Agenda Items**

- Designation of Compliance Managers by business division
- Status of ISO 37001 (Anti-Bribery Management System) and ISO 37301 (Compliance Management System) certifications
- Internal framework for managing corporate norms and regulations
- Implementation of internal compliance training programs for employees

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# Ethics & Compliance

Material Topic – Rank 3

**Strengthening Compliance and Anti-Corruption Systems**

## Ethics and Compliance Governance Structure

To systematically implement ethics and compliance management, Kukdo Chemical operates the Legal and Compliance Business Conduct Group as a department reporting directly to the CEO. The head of this group is appointed as a qualified Compliance Officer. Under the Legal & Compliance Business Conduct Group, the Compliance Team and the Sustainability Team are organized, with responsibility for compliance and ethical management, and for sustainability management, respectively. Through this governance structure, Kukdo Chemical seeks to proactively prevent legal risks and to strengthen the foundation for sustainable corporate operations.



## Ethics & Compliance Strategy

Kukdo Chemical is committed to achieving zero cases of corruption, conflicts of interest, fraud, money laundering, and anti-competitive practices by 2025 as a core target of its Ethics & Compliance Program. To this end, the Company has strengthened its internal control system by adopting internationally recognized management system certifications and has established a framework to proactively identify and manage risks. Furthermore, Kukdo Chemical has obtained ISO 37001 (Anti-Bribery Management System) and ISO 37301 (Compliance Management System) certifications and, beginning in 2025, will maintain them through annual renewals in accordance with ISO standards. Going forward, the Company plans to further strengthen its enterprise-wide ethical culture and responsible management practices, thereby consolidating a sustainable Ethics & Compliance Framework.

## Ethics & Compliance Practices

Kukdo Chemical implements a structured Ethics & Compliance Program to foster an ethical, transparent corporate culture and to establish a business environment grounded in strict adherence to laws and regulation.

### Internal Audit and Accounting Oversight

The statutory auditor participates in Board of Directors meetings to provide independent oversight and, when necessary, reviews books and records to examine overall management. The Internal Accounting Control System is operated in accordance with the Act on External Audit, and the 2024 (53rd fiscal year) evaluation confirmed that it was effectively designed and implemented, with no material weaknesses identified.

### Legal Compliance

During the reporting period, Kukdo Chemical disclosed cases of non-compliance with laws and regulations as a quantitative indicator, with the reporting scope limited to domestic business sites. Non-compliance cases are reported together with year-over-year changes. Unconfirmed cases and ongoing litigation are excluded and managed separately. The Company applies internally defined criteria for “material non-compliance,” with data compiled and verified quarterly through internal audits, legal reviews, and the whistleblowing channel.

### Audit Training and Organization

To strengthen audit competencies, statutory auditors participate in professional training programs provided by external institutions. In 2024, one auditor completed courses on corporate governance, internal control, legal liability, and AI-related risks through Samjong KPMG and Deloitte Korea Audit Committee Forums. Audit support is provided by the three-member Compliance Team.

### Conflict of Interest Prevention and Sensitive Transaction Approval

To prevent situations in which employees’ personal interests conflict with those of the Company, Kukdo Chemical has enacted and strictly enforces its Conflict of Interest Policy. Conflict-of-interest transactions are, in principle, prohibited. However, nominal meals or hospitality within the Company’s prescribed limits (currently set at KRW 50,000 per person) may be exceptionally permitted. When a potential conflict arises, employees must submit a disclosure form and obtain prior approval from the responsible department head, who may re-examine the case or, if necessary, order recusal.



### Whistleblowing and Grievance Mechanism

Kukdo Chemical operates a whistleblowing and grievance mechanism open to both employees and external stakeholders. Reports are handled through a structured process: submission → investigation → deliberation & corrective action → monitoring. In 2024, six reports were received, all of which were resolved, with strict protection of whistleblowers ensured. Consistent with 2024, the Company aims to maintain a 100% resolution rate for all whistleblowing cases in 2025 and beyond.

### Compliance Training and Awareness Programs

Kukdo Chemical continuously enhances employees’ understanding of ethical and legal standards through training on compliance, anti-bribery policies, sexual harassment prevention, counter-espionage laws, and contract execution guidelines. In 2024, all 883 employees completed compliance training courses covering anti-bribery, conflict of interest, and compliance fundamentals (January: Understanding Compliance, 1 hour, 883 participants; December: Anti-Bribery and Conflict of Interest, 0.5 hour, 883 participants). From 2025 to 2026, training will continue in the same format, and starting in 2027, programs will be further strengthened to cover fraud, conflicts of interest, and money laundering. The goal is for all employees to complete at least one session per year (minimum three hours) on these topics.

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# Financial Performance

## Consolidated Statement of Financial Position

(Unit: KRW million)

Category	2022	2023	2024
<b>Assets</b>			
Non-current Assets	753,049	855,831	887,946
Property, Plant and Equipment	636,652	651,327	732,589
Intangible Assets	27,091	32,794	29,677
Investment Property	16,260	16,252	17,806
Long-term Trade and Other Receivables	7,426	13,281	16,785
Investments in Joint Ventures	3,527	3,710	3,845
Other Investments	43,494	107,053	48,084
Other Non-current Assets		10	3,392
Deferred Tax Assets	5,105	6,924	9,483
Right-of-use Assets	13,493	24,481	26,286
Current Assets	746,044	653,731	705,367
Inventories	272,484	213,377	211,231
Trade and Other Receivables	308,204	274,360	297,154
Other Investments	113,491	103,114	113,996
Other Current Assets	22,467	18,216	23,905
Cash and Cash Equivalents	29,398	44,665	59,081
<b>Total Assets</b>	<b>1,499,094</b>	<b>1,509,561</b>	<b>1,593,312</b>
<b>Equity</b>			
Equity attributable to Owners of the Parent	845,358	834,447	839,726
Share Capital	45,053	45,053	45,053
Capital Surplus (Share Premium)	124,097	124,097	112,790
Other Components of Equity	-26,158	-33,116	-33,175
Accumulated Other Comprehensive Income	7,888	8,143	25,683
Retained Earnings	694,477	690,269	689,375
Non-controlling Interests	12,830	12,579	14,098
<b>Total Equity</b>	<b>858,188</b>	<b>847,026</b>	<b>853,824</b>

Category	2022	2023	2024
<b>Liabilities</b>			
Non-current Liabilities	146,519	101,354	186,686
Long-term Borrowings	72,247	50,791	121,527
Bonds Payable	49,899	19,972	29,941
Deferred Tax Liabilities	21,364	19,930	19,722
Long-term Trade and Other Payables	16	650	1,650
Other Non-current Liabilities	1,469	1,802	5,415
Lease Liabilities	1,524	8,208	8,431
Current Liabilities	494,387	561,181	552,802
Short-term Borrowings	210,074	329,646	298,186
Current Portion of Bonds Payable	19,989	29,976	19,993
Current Portion of Long-term Borrowings	40,365	22,360	40,041
Derivative Liabilities		439	
Trade and Other Payables	203,168	169,759	181,215
Current Tax Liabilities (Income Tax Payable)	10,961	2,226	3,187
Other Current Liabilities	9,440	5,654	8,661
Lease Liabilities	390	1,122	1,520
<b>Total Liabilities</b>	<b>640,906</b>	<b>662,535</b>	<b>739,488</b>
<b>Total Liabilities and Equity</b>	<b>1,499,094</b>	<b>1,509,561</b>	<b>1,593,312</b>

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# Financial Performance

## Consolidated Statement of Comprehensive Income

(단위: 백만 원)

Category	2022	2023	2024
Revenue	1,601,774	1,311,776	1,305,775
Cost of Sales	1,321,847	1,136,858	1,092,405
Gross Profit	279,927	174,919	213,370
Selling and Administrative Expenses	182,996	155,766	188,037
Operating Profit (Loss)	96,931	19,153	25,334
Other Income	4,069	8,589	3,236
Other Expenses	1,559	10,085	1,550
Share of Profit (Loss) of Equity-Accounted Investees	63	182	135
Finance Income	42,931	34,043	55,083
Finance Costs	44,758	42,554	68,063
Profit (Loss) before Income Tax	97,677	9,328	14,175
Income Tax Expense (Benefit)	24,145	1,839	5,234
Profit (Loss) for the Year	73,532	7,490	8,941

Category	2022	2023	2024
Other Comprehensive Income	-4,603	193	19,221
Items that will not be reclassified to profit or loss	-1,996	1,501	694
Gains (Losses) on Equity Instruments at Fair Value through Other Comprehensive Income (FVOCI)	-1,996	1,501	694
Items that may be reclassified subsequently to profit or loss	-2,607	-1,308	18,527
Exchange Differences on Translating Foreign Operations	-2,607	-1,323	18,450
Gains (Losses) on Debt Instruments at Fair Value through Other Comprehensive Income (FVOCI)		15	77
Total Comprehensive Income	68,929	7,682	28,162
Profit (Loss) Attributable to			
Owners of the Parent	74,323	7,703	8,841
Non-controlling Interests	-791	-213	100
Total Comprehensive Income Attributable to			
Owners of the Parent	70,000	7,933	26,643
Non-controlling Interests	-1,071	-251	1,519
Earnings per Share			
Basic Earnings (Loss) per Share	0.009	0.001	0.001
Diluted Earnings (Loss) per Share	0.009	0.001	0.001

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## Consolidated Statement of Changes in Equity

(Unit: KRW million)

Category	Equity						Non-controlling Interests	Total Equity
	Equity attributable to Owners of the Parent							
	Share Capital	Capital Surplus (Share Premium)	Other Components of Equity	Accumulated Other Comprehensive Income	Retained Earnings	Total Equity attributable to Owners of the Parent		
January 01, 2022 (Beginning Balance)	45,053	124,097	-19,481	12,186	639,189	801,044	13,901	814,945
Total Comprehensive Income				-4,323	74,323	70,000	-1,071	68,929
Dividends Paid					-19,009	-19,009		-19,009
Acquisition of Treasury Shares			-6,677			-6,677		-6,677
Issuance Costs of New Shares								
Business Combinations								
December 31, 2022 (Ending Balance)	45,053	124,097	-26,158	7,888	694,477	845,358	12,830	858,188
January 01, 2023 (Beginning Balance)	45,053	124,097	-26,158	7,888	694,477	845,358	12,830	858,188
Total Comprehensive Income				231	7,703	7,933	-251	7,682
Dividends Paid					-11,887	-11,887		-11,887
Acquisition of Treasury Shares			-6,872			-6,872		-6,872
Issuance Costs of New Shares			-85			-85		-85
Business Combinations								
December 31, 2023 (Ending Balance)	45,053	124,097	-33,116	8,143	690,269	834,447	12,579	847,026
January 01, 2024 (Beginning Balance)	45,053	124,097	-33,116	8,143	690,269	834,447	12,579	847,026
Total Comprehensive Income				17,803	8,841	26,643	1,519	28,162
Dividends Paid					-10,009	-10,009		-10,009
Acquisition of Treasury Shares								
Issuance Costs of New Shares			-60			-60		-60
Business Combinations		-11,307			11	-11,296		-11,296
December 31, 2024 (Ending Balance)	45,053	112,790	-33,175	25,683	689,375	839,726	14,098	853,824

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# Financial Performance

## Consolidated Statement of Cash Flows

(Unit: KRW million)

Category	2022	2023	2024
Cash Flows from Operating Activities	113,466	114,309	54,552
Profit (Loss) for the Year	73,532	7,490	8,941
Adjustments for Reconciliation of Profit (Loss)	70,376	67,275	72,985
Changes in Assets and Liabilities Arising from Operating Activities	50,625	65,734	-2,805
Interest Received	6,927	9,867	10,391
Interest Paid	-12,113	-21,981	-27,860
Dividends Received	1,324	1,465	910
Income Taxes Paid	-77,207	-15,541	-8,011
Cash Flows from Investing Activities	-169,886	-141,604	-65,201
Proceeds from Investing Activities	185,099	200,525	180,445
Payments for Investing Activities	-354,985	-342,129	-245,646
Cash Flows from Financing Activities	44,626	43,555	20,257
Proceeds from Financing Activities	970,391	856,845	1,236,372
Payments for Financing Activities	-925,764	-813,290	-1,216,116
Effects of Exchange Rate Changes on Cash and Cash Equivalents	-1,050	-926	4,401
Net Increase (Decrease) in Cash and Cash Equivalents	-12,844	15,335	14,009
Cash and Cash Equivalents at Beginning of Year	40,868	29,398	44,665
Effects of Exchange Rate Changes on Cash and Cash Equivalents	1,374	-68	407
Cash and Cash Equivalents at End of Year	29,398	44,665	59,081

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# ESG Data

## General and Governance

\* For consolidated reporting, data from Kukdo Chemical America Inc. and SEOGYOHEUNGUP have been aggregated and reported starting in 2023.  
 \*\* Jungdo Chemical became a subsidiary of Kukdo Chemical in 2024; however, data for 2022–2023 are also included in this report.  
 \*\*\* Nichido Chemical is an affiliate of Kukdo Chemical.  
 \*\*\*\* On October 1, 2024, Kukdo Chemical merged Kukdo Advanced Materials Co., Ltd. through absorption, and data have been reported on a consolidated basis from 2024 onward.

### Commitment to Anti-Corruption and Anti-Competitive Practices

(Scope of consolidation: Kukdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical (Ningbo) Co., Ltd., and SEOGYOHEUNGUP)

Category	Unit	Consolidated			Kukdo Chemical			
		2022	2023	2024	2022	2023	2024	
Employee Code of Ethics Commitment	Signing rate	%	100	100	100	100	100	100
Employee Information Security Commitment <sup>1) 2)</sup>	Signing rate	%	100	100	98	-	-	97

- 1) The signing rate is recalculated in proportion to the number of employees at each entity.
- 2) Kukdo Chemical began requiring Employee Information Security Commitments in 2024.

### Anti-Corruption and Compliance Risk Assessment

Category	Unit	Kukdo Chemical		
		2022	2023	2024
Proportion of Business Sites Covered by Risk Assessments	%	-	100	100
Number of Significant Cases Identified	Cases	-	2	2

\* Following the acquisition of ISO 37301 (Compliance Management System) and ISO 37001 (Anti-Bribery Management System) certifications, Kukdo Chemical has conducted anti-corruption and compliance risk assessments since 2023.

### Ethics and Information Security & Cybersecurity Incidents

(Scope of consolidation: Kukdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical (Ningbo) Co., Ltd., Kukdo Finechem, Jungdo Chemical, and SEOGYOHEUNGUP)

Category	Unit	Consolidated			Kukdo Chemical			
		2022	2023	2024	2022	2023	2024	
Identification of Ethics Violation	Cases Identified	Cases	0	1	2	0	0	1
	Cases Resolved	Cases	0	1	2	0	0	1
Information Security & Cybersecurity Incidents	Total	Cases	0	0	0	0	0	0
	Data Breach Case	Cases	0	0	0	0	0	0
	Personal Data Breach Cases	Cases	0	0	0	0	0	0

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## General and Governance

### Whistleblowing

(Scope of consolidation: Kukdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical (Ningbo) Co., Ltd., Kukdo Finechem, Jungdo Chemical, and SEOGYOHEUNGUP)

Category	Unit	Consolidated			Kukdo Chemical		
		2022	2023	2024	2022	2023	2024
Cases Reported	Cases	11	5	6	11	5	6
Cases Resolved	Cases	11	5	5	11	5	5

### Number of Legal Non-Compliance Cases

(Scope of consolidation: Kukdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical (Ningbo) Co., Ltd., Kukdo Chemical India Pvt. Ltd., Kukdo Finechem, Jungdo Chemical, and SEOGYOHEUNGUP)

Category	Unit	Consolidated			Kukdo Chemical		
		2022	2023	2024	2022	2023	2024
Total Cases of Non-Compliance	Cases	6	10	10	5	9	6
Cases of Non-Compliance Related to Occupational Health & Safety	Cases	3	5	4	2	5	3
Cases of Non-Compliance Related to Environmental Regulations	Cases	3	5	6	3	4	3

### ISO Management Systems

(Scope of consolidation: Kukdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical (Ningbo) Co., Ltd., Kukdo Chemical India Pvt. Ltd., Kukdo Finechem, Jungdo Chemical)

Category	Unit	Consolidated			Kukdo Chemical		
		2022	2023	2024	2022	2023	2024
ISO and Management System Certification Status	Number of Business Sites	11	11	11	5	5	6
ISO 14001 Certification Acquired	Number of Business Sites	6	9	9	4	5	5
ISO 45001 Certification Acquired	Number of Business Sites	4	4	6	2	2	4
ISO 9001 Certification Acquired	Number of Business Sites	7	7	10	4	4	6
ISO 37301 Certification Acquired	Number of Business Sites	0	5	5	0	5	5
ISO 50001 Certification Acquired	Number of Business Sites	1	5	5	0	4	4
ISO 37001 Certification Acquired	Number of Business Sites	0	0	6	0	0	5
Other Certifications Acquired	Number of Business Sites	1	6	6	0	5	5

\* Kukdo Chemical America, Inc., Kukdo Europe GmbH, and SEOGYOHEUNGUP do not operate production sites.

\*\* Kukdo Advanced Materials (currently Kukdo Chemical, Hwaseong Site) was merged into Kukdo Chemical in 2024 and has been included in Kukdo Chemical's business sites from 2024 onward.

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### Employees Overview

(Scope of consolidation: Kukdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical America Inc., Kukdo Europe GmbH, Kukdo Chemical (Ningbo) Co., Ltd., Kukdo Chemical India Pvt. Ltd., Kukdo Finechem, Jeongdo Chemical, and SEOGYOHEUNGUP)

Category	Unit	Consolidated			Kukdo Chemical			
		2022	2023	2024	2022	2023	2024	
Total Employees	Total	Persons	1,290	1,320	1,421	777	811	883
	Male	Persons	1,141	1,148	1,243	698	717	785
	Male Ratio	%	88	87	87	90	88	89
	Female	Persons	149	172	178	79	94	98
	Female Ratio	%	12	13	13	10	12	11
Permanent Employees	Total	Persons	1,266	1,262	1,366	774	781	847
	Male	Persons	1,117	1,104	1,201	695	698	762
	Female	Persons	149	158	165	79	83	85
Temporary Employees	Total	Persons	24	58	55	3	30	36
	Male	Persons	24	44	42	3	19	23
	Female	Persons	0	14	13	0	11	13
Contracted / Dispatched Employees <sup>1)</sup>	Total	Persons	89	112	113	52	58	59
	Male	Persons	50	67	68	25	26	27
	Female	Persons	39	45	45	27	32	32

1) For contracted and dispatched employees, Kukdo Chemical America Inc., Seogyo Hungeop Co., Ltd., Kukdo Chemical India Pvt. Ltd., and Jeongdo E&P Co., Ltd. are excluded from the scope of consolidation.

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### Executive Overview

Category	Unit	Kukdo Chemical			
		2022	2023	2024	
Registered Executives and Statutory Auditors	Total	Persons	12	10	10
	Male	Persons	12	9	9
	Female	Persons	0	1	1
Non-registered Executives	Total	Persons	44	40	37
	Male	Persons	43	39	36
	Female	Persons	1	1	1

### Workforce Diversity

(Scope of consolidation: Kukdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical America Inc., Kukdo Europe GmbH, Kukdo Chemical (Ningbo) Co., Ltd., Kukdo Chemical India Pvt. Ltd., Kukdo Finechem, Jungdo Chemical, and SEOGYOHEUNGUP)

Category	Unit	Consolidated			Kukdo Chemical			
		2022	2023	2024	2022	2023	2024	
Employees from Minority Groups	Total	Persons	152	183	192	82	105	112
	Ratio	%	12	14	14	11	13	13
Total Female Employees	Female Employees	Persons	149	172	178	79	94	98
	Ratio	%	12	13	13	10	12	11
Employees with Disabilities	Persons	3	11	14	3	11	14	
Other Vulnerable Groups	Persons	0	0	0	0	0	0	

\* Minority groups include women, employees with disabilities, migrant workers, and ethnic/racial minorities.

\*\* Other vulnerable groups include school dropouts, workers with low educational attainment, North Korean defectors, and foreign workers.

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### Employee Performance Evaluation

(Scope of consolidation: Kukdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical America Inc., Kukdo Europe GmbH, Kukdo Chemical (Ningbo) Co., Ltd., and Kukdo Chemical India Pvt. Ltd.)

Category	Unit	Consolidated			Kukdo Chemical		
		2022	2023	2024	2022	2023	2024
Employees Eligible for Performance Evaluation	Persons	473	500	528	333	335	363
Employees Evaluated	Persons	473	500	528	333	335	363
Evaluation Coverage Ratio	%	100	100	100	100	100	100

\* Performance evaluations apply only to employees in general and research positions who have worked for more than six months in the reporting year.

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### Employee Training

(Scope of consolidation: Kukdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical (Ningbo) Co., Ltd., Kukdo Chemical India Pvt. Ltd., Kukdo Finechem, and Jeongdo Chemical)

Category	Unit	Consolidated			Kukdo Chemical			
		2022	2023	2024	2022	2023	2024	
Total Employee Training	Average Training Hours per Employee	Hours / Person	51.71	48.26	45.70	46.39	40.66	39.43
Environmental Training - Energy Saving and Climate Action	Average Training Hours per Employee	Hours / Person	0.92	2.90	0.96	0.51	3.38	0.39
	Total Training Hours	Hours	1180	3765	1348	393	2738	341
	Number of Employees Trained	Persons	327	1104	321	19	811	19
	Training Completion Rate	%	25	85	23	2	94	2
Environmental Training - Waste and Hazardous Materials Handling	Average Training Hours per Employee	Hours / Person	6.29	2.93	5.93	8.67	2.65	7.55
	Total Training Hours	Hours	8,097	3,801	8,288	6,740	2,146	6,670
	Number of Employees Trained	Person	817	542	823	461	188	466
	Training Completion Rate	%	63	42	59	59	23	53
Human Rights Training <sup>1)</sup>	Average Training Hours per Employee	Hours / Person	1.59	2.41	2.33	2.00	3.00	3.00
	Total Training Hours	Hours	1,932	2,952	3,061	1,554	2,433	2,649
	Number of Employees Trained	Persons	903	1181	1037	777	811	883
	Training Completion Rate	%	74	96	79	100	100	100
Ethics Training - Anti-Corruption <sup>1)</sup>	Average Training Hours per Employee	Hours / Person	0.73	0.80	1.11	1.00	1.00	1.50
	Total Training Hours	Hours	889	983	1455	777	811	1325
	Number of Employees Trained	Persons	1,057	1,087	1,118	777	811	883
	Training Completion Rate	%	87	89	85	100	100	100
Ethics Training - Information Security & Cybersecurity <sup>1)</sup>	Average Training Hours per Employee	Hours / Person	0.08	0.07	0.07	0.05	0.05	0.05
	Total Training Hours	Hours	92	84	93	40	37	45
	Number of Employees Trained	Persons	96	88	97	40	37	45
	Training Completion Rate	%	8	7	7	5	5	5

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### Employee Training

(Scope of consolidation: Kukdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical (Ningbo) Co., Ltd., Kukdo Chemical India Pvt. Ltd., Kukdo Finechem, and Jeongdo Chemical)

Category	Unit	Consolidated			Kukdo Chemical			
		2022	2023	2024	2022	2023	2024	
Occupational Health & Safety Training <sup>2)</sup>	Average Training Hours per Employee	Hours / Person	16.71	17.69	17.73	24.00	24.00	24.00
	Total Training Hours	Hours	20,255	21,647	23,313	18,648	19,464	21,192
	Number of Employees Trained	Person	1198	1224	1304	777	811	883
	Training Completion Rate	%	99	100	99	100	100	100
Job-related Training <sup>3)</sup>	Average Training Hours per Employee	Hours / Person	25.39	21.46	17.57	10.16	6.59	2.94
	Total Training Hours	Hours	26,816	22,943	20,028	7,892	5,347	2,598
	Number of Employees Trained	Persons	539	583	527	311	371	317
	Training Completion Rate	%	51	55	46	40	46	36
Sustainable Procurement Training	Number of employees in the Procurement Team	Persons	0	9	4	0	9	0
	Number of Procurement Team employees trained on sustainable procurement	Persons	0	9	4	0	9	0
	Percentage of Procurement Team employees trained on sustainable procurement	%	0	100	100	0	100	0

1) Due to the absence of a data monitoring system, data from Kukdo Chemical India Pvt. Ltd. are not included.

2) Due to the absence of a data monitoring system, data from Kukdo Finechem are not included.

3) Due to the absence of a data monitoring system, data from Kukdo Chemical (Ningbo) Co., Ltd., Kukdo Chemical India Pvt. Ltd., and Kukdo Finechem are not included.

\* The total employee training hours represent the simple sum of average training hours per employee across each training topic.

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### Gender Pay Gap Analysis

Category	Unit	Kukdo Chemical			
		2022	2023	2024	
Ratio of Equal Pay for Female and Male	Average Gender Pay Ratio	%	77	78	79
	Average Male Salary	KRW thousand	84,269	75,067	73,803
	Average Female Salary	KRW thousand	65,098	58,224	58,088

\* Executive compensation is excluded from the calculation of average salaries by gender.

\*\* The average gender pay ratio is calculated as the average female salary divided by the average male salary. There is no gender-based pay discrimination; differences are attributable to factors such as years of service.

\*\*\* The average male and female salary figures were derived by recalculating the gender-specific average remuneration by business unit, as disclosed in the annual business report.

### Compensation Ratio

Category	Unit	Kukdo Chemical		
		2022	2023	2024
Average Annual Total Compensation of All Employees	KRW thousand	82,312	73,277	72,178
Annual Total Compensation of the Highest-Paid Individual	KRW thousand	1,150,004	1,094,004	694,008
Ratio of the Highest-Paid Individual's Compensation to Average Employee Compensation	%	1397	1493	962

### Employee Health Checkups

(Scope of consolidation: Kukdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical (Ningbo) Co., Ltd., and Kukdo Finechem)

Category	Unit	Consolidated			Kukdo Chemical		
		2022	2023	2024	2022	2023	2024
Number of Employees Eligible for Health Checkups	Persons	888	999	1,051	603	691	751
Number of Employees Receiving Health Checkups	Persons	878	995	1,048	600	689	749
Health Checkup Participation Rate	%	99	100	100	100	100	100

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### Safety Incidents

(Scope of consolidation: Kukdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical (Ningbo) Co., Ltd., Kukdo Chemical India Pvt. Ltd., Kukdo Finechem, and Jungdo Chemical)

Category	Unit	Consolidated			Kukdo Chemical		
		2022	2023	2024	2022	2023	2024
Number of Occupational Injuries	Cases	7	8	12	1	5	3
Lost Time Injury Frequency Rate (LTIFR) – Direct Employees	N/A	8.29	11.13	6.61	7.28	11.56	2.76
Lost Time Injury Severity Rate (LTISR) – Direct Employees	N/A	0.16	0.20	0.33	0.02	0.20	0.16

\* Data for Kukdo Finechem have been aggregated starting in 2023.

### Safety Risk Assessments

(Scope of consolidation: Kukdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical (Ningbo) Co., Ltd., Kukdo Chemical India Pvt. Ltd., Kukdo Finechem, and Jungdo Chemical)

Category	Unit	Consolidated			Kukdo Chemical		
		2022	2023	2024	2022	2023	2024
Number of Business Sites Subject to Assessment	Sites	11	11	11	5	5	6
Number of Business Sites Assessed	Sites	11	11	11	5	5	6
Assessment Coverage Ratio	%	100	100	100	100	100	100

### Flexible Work Arrangements

Category	Unit	Kukdo Chemical		
		2022	2023	2024
Employees under Part-time / Flexible Hours Program	Persons	138	139	133

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### Parental Leave Program

Category	Unit	Kukdo Chemical		
		2022	2023	2024
Male Employees Taking Parental Leave	Persons	3	2	3
Female Employees Taking Parental Leave	Persons	1	2	7
<b>Total Employees Taking Parental Leave</b>	<b>Persons</b>	<b>4</b>	<b>4</b>	<b>10</b>
Parental Leave Utilization Rate – Male	%	10.7	11.1	15.7
Parental Leave Utilization Rate – Female	%	100	100	100
Parental Leave Utilization Rate – Total	%	14	20	35.7
Male Employees Remaining with the Company 12 Months After Returning from Parental Leave	Persons	0	0	0
Female Employees Remaining with the Company 12 Months After Returning from Parental Leave	Persons	1	0	0
Total Employees Remaining with the Company 12 Months After Returning from Parental Leave	Persons	1	0	0
Employees Using Reduced Working Hours for Childcare	Persons	1	0	4
Employees Using Spousal Paternity Leave	Persons	28	20	14

### Labor-Management Communication

Category	Unit	Kukdo Chemical		
		2022	2023	2024
Coverage Rate of the Labor-Management Council	%	100	100	100

(Scope of consolidation: Kukdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical (Ningbo) Co., Ltd., Kukdo Chemical India Pvt. Ltd., Kukdo Finechem, and Jungdo Chemical)

Category	Unit	Consolidated		
		2022	2023	2024
Male Employees	Persons	5	4	4
Female Employees	Persons	1	4	8
<b>Total Employees</b>	<b>Persons</b>	<b>6</b>	<b>8</b>	<b>12</b>

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### Supplier Code of Conduct

(Scope of consolidation: Kukdo Chemical Co., Ltd. and Kukdo Chemical (Kunshan) Co., Ltd.)

Category	Unit	Consolidated			Kukdo Chemical		
		2022	2023	2024	2022	2023	2024
Supplier Code of Conduct Signing Status	Number of Supplier Subject to Code of Conduct Signing	-	-	29	-	-	-
	Signing Rate	-	-	100	-	-	-

\* Kukdo Chemical began implementing the Supplier Code of Conduct signing process in 2025.

### Supply Chain Sustainability Management

Category	Unit	Kukdo Chemical		
		2022	2023	2024
Supply Chain Sustainability Management	Number of Suppliers Subject to Sustainability (ESG) Assessment	-	-	25
	Number of Suppliers Assessed for Sustainability (ESG)	-	-	18
	Percentage of Suppliers Assessed for Sustainability (ESG)	-	-	72

\* Kukdo Chemical began conducting ESG assessments of its supply chain in 2024.

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### Energy Consumption

(Scope of consolidation: Kukdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical America Inc., Kukdo Europe GmbH, Kukdo Chemical (Ningbo) Co., Ltd., Kukdo Chemical India Pvt. Ltd., Kukdo Finechem, Jungdo Chemical, and SEOGYOHEUNGUP)

Category	Unit	Consolidated			Kukdo Chemical			
		2022	2023	2024	2022	2023	2024	
Non-renewable Energy Consumption	Gasoline <sup>1)</sup>	TJ	2	1	1	2	1	1
	Diesel	TJ	3	7	7	2	5	5
	LNG	TJ	146	260	406	105	188	323
	Electricity	TJ	860	1,026	1,138	661	784	865
	Steam	TJ	1,224	1,397	1,267	893	989	837
<b>Total Energy Consumption</b>	<b>Total Energy Consumption<sup>2)</sup></b>	<b>TJ</b>	<b>2,234</b>	<b>2,687</b>	<b>2,815</b>	<b>1,662</b>	<b>1,963</b>	<b>2,028</b>

\* Renewable energy is not used.

\*\* Gasoline consumption for mobile combustion at Kukdo Chemical America Inc. and Kukdo Europe GmbH was excluded from the reporting scope, as its impact is less than 5% of total energy consumption.

1) Kukdo Chemical (Kunshan) Co., Ltd. and Kukdo Chemical (Ningbo) Co., Ltd. were excluded from gasoline consumption reporting due to the absence of a monitoring system.

2) Totals may differ from the sum of individual energy types because decimals were truncated at the site level before aggregation.

### Greenhouse Gas (GHG) Emissions

(Scope of consolidation: Kukdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical America Inc., Kukdo Europe GmbH, Kukdo Chemical (Ningbo) Co., Ltd., Kukdo Chemical India Pvt. Ltd., Kukdo Finechem, Jungdo Chemical, and SEOGYOHEUNGUP)

Category	Unit	Consolidated			Kukdo Chemical			
		2022	2023	2024	2022	2023	2024	
GHG Emissions	Direct GHG Emissions (Scope 1)	tCO <sub>2</sub> eq	9,965	15,495	22,491	7,610	11,275	17,754
	Indirect GHG Emissions (Scope 2)	tCO <sub>2</sub> eq	92,613	114,258	120,959	37,118	44,938	47,094
	Total GHG Emissions <sup>1)</sup>	tCO <sub>2</sub> eq	102,575	129,750	143,447	44,725	56,211	64,844
<b>GHG Emissions Intensity</b>	<b>Total GHG Emissions / Net Sales</b>	<b>tCO<sub>2</sub>eq / KRW million</b>	<b>0.064</b>	<b>0.099</b>	<b>0.110</b>	<b>0.032</b>	<b>0.053</b>	<b>0.066</b>

\* Kukdo Chemical is subject to the Emissions Trading Scheme (ETS). Emissions are calculated in accordance with ETS standards and verified by a third party. Emissions from subsidiaries other than Kukdo Chemical have not been externally verified.

\*\* GHG emissions from overseas subsidiaries were calculated using country-specific emission factors.

1) Totals may differ from the sum of individual categories because decimals were truncated at the site level before aggregation.

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### Air Pollutant Emissions

(Scope of consolidation: Kukdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical (Ningbo) Co., Ltd., Kukdo Finechem, and Jungdo Chemical)

Category	Unit	Consolidated			Kukdo Chemical		
		2022	2023	2024	2022	2023	2024
Nitrogen Oxides (NO <sub>x</sub> ) Emissions	ton	13.1	15.0	14.7	5.9	8.5	9.9
Sulfur Oxides (SO <sub>x</sub> ) Emissions	ton	0.5	3.7	4.6	0.4	3.6	4.5
Particulate Matter (PM) Emissions	ton	2.3	2.3	2.3	1.3	1.5	1.4
Ozone-Depleting Substances (ODS) Emissions	ton	0	0	0	0	0	0
Volatile Organic Compounds (VOC) Emissions	ton	0.3	0.8	0.5	0	0	0
Hazardous Air Pollutants (HAPs) Emissions	ton	0.0	0.0	0	0	0	0
Total Hydrocarbons (THC) Emissions	ppm	22.9	18.8	64.9	21.1	16.6	58.1

\* Kukdo Chemical America Inc., Kukdo Europe GmbH, and Seogyo Heungup Co., Ltd. do not conduct production activities and therefore have no related emissions.

### Water Use Management

(Scope of consolidation: Kukdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical (Ningbo) Co., Ltd., Kukdo Chemical India Pvt. Ltd., Kukdo Finechem, Jungdo Chemical, and SEOGYOHEUNGUP)

Category	Unit	Consolidated			Kukdo Chemical		
		2022	2023	2024	2022	2023	2024
Water Withdrawal	Groundwater	123,340	160,743	161,079	123,340	160,743	161,079
	Third-Party Supply	3,362,365	3,541,124	3,187,766	3,035,166	3,198,400	2,864,777
	Total Water Withdrawal	3,485,705	3,701,867	3,348,845	3,158,506	3,359,143	3,025,856
Water Use	Water Use	3,485,705	3,701,867	3,348,845	3,158,506	3,359,143	3,025,856
	Recycled and Reused Water	10,102	103,355	106,327	- 2)	- 2)	- 2)
	Total Water Use	3,495,807	3,805,222	3,455,172	3,158,506	3,359,143	3,025,856
Water Discharge	Wastewater Discharge <sup>1)</sup>	3,024,014	3,232,982	2,766,463	2,826,041	2,990,694	2,647,706
Water Consumption	Total Water Consumption	461,691	468,885	582,382	332,465	368,449	378,150

\* SEOGYOHEUNGUP began monitoring and aggregating water withdrawal data in February 2023.

\*\* In accordance with local environmental regulations, Kukdo Chemical India Pvt. Ltd. recycles all water after use and discharges no wastewater.

1) Jungdo Chemical and SEOGYOHEUNGUP do not generate wastewater and were excluded from the reporting scope.

2) Not available (N/A)

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# ESG Data

## Environment

### Water Pollutant Emissions

(Scope of consolidation: Kukdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical (Ningbo) Co., Ltd., and Kukdo Finechem)

Category	Unit	Consolidated			Kukdo Chemical		
		2022	2023	2024	2022	2023	2024
Chemical Oxygen Demand (COD) Emissions	ton	218.1	5.5	3.2	215.3	-	-
Total Organic Carbon (TOC) Emissions	ton	121.8	165.8	143.0	120.2	163.4	139.4
Biological Oxygen Demand (BOD) Emissions	ton	64.4	53.9	97.0	63.7	52.9	96.0
Suspended Solids (SS) Emissions	ton	55.0	54.1	119.4	52.1	51.6	117.1
Total Phosphorus (T-P) Emissions	ton	4.4	5.9	2.6	4.2	5.8	2.5
Total Nitrogen (T-N) Emissions	ton	29.4	55.8	52.8	28.7	52.6	52.1

\* Kukdo Chemical America Inc., Kukdo Europe GmbH, Kukdo Chemical India Pvt. Ltd., Jeongdo E&P Co., Ltd., and Seogyo Heungup Co., Ltd. do not generate wastewater and therefore have no related emissions.

\*\* Since 2023, Kukdo Chemical has reported Total Organic Carbon (TOC) emissions instead of Chemical Oxygen Demand (COD) emissions in accordance with domestic water quality monitoring standards.

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# ESG Data

## Environment

### Waste Management

(Scope of consolidation: Kukdo Chemical, Kukdo Chemical (Kunshan) Co., Ltd., Kukdo Chemical (Ningbo) Co., Ltd., Kukdo Chemical India Pvt. Ltd., Kukdo Finechem, and Jungdo Chemical)

Category	Unit	Consolidated			Kukdo Chemical			
		2022	2023	2024	2022	2023	2024	
General Waste <sup>1)</sup>	Landfilled	ton	26	111	296	26	111	296
	Incinerated	ton	140	603	604	108	25	0
	Recycled	ton	6,438	6,568	6,437	6,062	6,067	5,679
	Other	ton	0	0	0	0	0	0
	Subtotal	ton	6,604	7,282	7,337	6,195	6,203	5,975
Designated Waste	Landfilled	ton	482	4	0.1	482	4	0
	Incinerated	ton	3,984	5,696	5,289	2,491	3,287	2,749
	Recycled	ton	10,049	8,712	8,227	4,322	1,452	1,425
	Other	ton	358	643	863	358	643	863
	Subtotal	ton	14,873	15,055	14,378	7,653	5,385	5,037
Total Waste	Total Waste Treated	ton	21,477	22,337	21,715	13,848	11,588	11,011
	Total Waste Recycled	ton	16,487	15,280	14,664	10,383	7,519	7,104
	Total Recycling Rate	%	77	68	68	75	65	65

1) Kukdo Chemical India Pvt. Ltd. was excluded from the scope for general waste due to the absence of a monitoring system.

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# ESG Data

## Nichido Chemical

### Workforce Diversity

Category		Unit	2022	2023	2024
Employees from Minority Groups	Total	Persons	1	1	1
	Ratio	%	7	8	8
Total Female Employees	Female Employees	Persons	1	1	1
	Ratio	%	8	8	8
Employees with Disabilities		Persons	0	0	0
Other Vulnerable Groups		Persons	0	0	0

\* Minority groups include women, employees with disabilities, migrant workers, and ethnic/racial minorities

\*\* Other vulnerable groups include school dropouts, workers with low educational attainment, North Korean defectors, and foreign workers.

### Employees Overview

Category		Unit	2022	2023	2024
Total Employees	Total	Persons	13	12	12
	Male	Persons	12	11	11
	Male Ratio	%	92	92	92
	Female	Persons	1	1	1
	Female Ratio	%	8	8	8
	Permanent Employees	Total	Persons	13	12
Male		Persons	12	11	11
Female		Persons	1	1	1
Temporary Employees	Total	Persons	0	0	0
	Male	Persons	0	0	0
	Female	Persons	0	0	0
Contracted / Dispatched Employees	Total	Persons	0	0	0
	Male	Persons	0	0	0
	Female	Persons	0	0	0

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# ESG Data

## Nichido Chemical

### Employee Performance Evaluation

Category	Unit	2022	2023	2024
Employees Eligible for Performance Evaluation	Persons	2	1	1
Employees Evaluated	Persons	2	1	1
Evaluation Coverage Ratio	%	100	100	100

### Employee Training

Category	Unit	2022	2023	2024
Total Employee Training	Average Training Hours per Employee	2.54	2.79	1.83
Human Rights Training	Average Training Hours per Employee	2.54	2.75	1.83
	Total Training Hours	33	33	22
	Number of Employees Trained	11	11	11
	Training Completion Rate	85	92	92
Ethics Training - information security & cybersecurity	Average Training Hours per Employee	0	0.04	0
	Total Training Hours	0	0.5	0
	Number of Employees Trained	0	11	0
	Training Completion Rate	0	92	0

\* The total employee training hours represent the simple sum of average training hours per employee across each training topic.

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## Nichido Chemical

### Employee Health Checkups

Category	Unit	2022	2023	2024
Number of Employees Eligible for Health Checkups	Persons	13	12	12
Number of Employees Receiving Health Checkups	Persons	13	12	12
Health Checkup Participation Rate	%	100	100	100

### Energy Consumption

Category	Unit	2022	2023	2024	
Non-renewable Energy Consumption	LNG	TJ	6	5	7
	Electricity	TJ	12	10	12
	Steam	TJ	18	16	19
<b>Total Energy Consumption</b>	<b>Total Energy Consumption</b>	<b>TJ</b>	<b>36</b>	<b>32</b>	<b>38</b>

\* Renewable energy is not used.

### Greenhouse Gas (GHG) Emissions

Category	Unit	2022	2023	2024	
GHG Emissions	Direct GHG Emissions (Scope 1)	tCO <sub>2</sub> eq	300	261	353
	Indirect GHG Emissions (Scope 2)	tCO <sub>2</sub> eq	625	571	703
	Total GHG Emissions	tCO <sub>2</sub> eq	926	832	1,056
<b>GHG Emissions Intensity</b>	<b>Total GHG Emissions / Net Sales</b>	<b>tCO<sub>2</sub>eq / KRW million</b>	<b>0.28</b>	<b>0.27</b>	<b>0.33</b>

\* Kukdo Chemical is subject to the Emissions Trading Scheme (ETS). Emissions are calculated in accordance with ETS standards and verified by a third party. Emissions from subsidiaries other than Kukdo Chemical have not been externally verified.

\*\* GHG emissions from overseas subsidiaries were calculated using country-specific emission factors.

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# ESG Data

## Nichido Chemical

### Water Use Management

Category		Unit	2022	2023	2024
Water Withdrawal	Groundwater	ton	0	0	0
	Third-Party Supply	ton	16,078	14,697	20,190
	<b>Total Water Withdrawal</b>	<b>ton</b>	<b>16,078</b>	<b>14,697</b>	<b>20,190</b>
Water Use	Water Withdrawal	ton	16,078	14,697	20,190
	Recycled and Reused Water	ton	0	0	0
	<b>Total Water Use</b>	<b>ton</b>	<b>16,078</b>	<b>14,697</b>	<b>20,190</b>
Water Discharge	Wastewater Discharge <sup>1)</sup>	ton	-	-	-
Water Consumption	Total Water Consumption	ton	-	-	-

1) Wastewater from Nichido Chemical is treated collectively at Kukdo Chemical Iksan Site wastewater treatment facilities, and therefore individual discharge volumes are not reported separately.

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# GRI Index

Statement of use	Kukdo Chemical has reported the information covered in this sustainability report for the period from January 1, 2024 to December 31, 2024 in accordance with the GRI Standards.
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI Sector Standards	No sector standards were applicable as of the publication date.

## Material Topics

Category	Indicator	Reporting Page and Content	Remarks
GRI 2: General Disclosures 2021	2-1 Organizational Details	5, 7	
	2-2 Entities Included in the Organization's Sustainability Reporting	2	
	2-3 Reporting Period, Frequency and Contact Point	2, 79	
	2-4 Restatements of Information	-	Not Applicable (First Publication)
	2-5 External Assurance	77	
	2-6 Activities, Value Chain and Other Business Relationships	7	2nd Business Report > II. Business Overview > 1. Business Overview - 4. Sales and Order Status
	2-7 Employees	55, 68	
	2-8 Workers Who are not Employees	55, 68	
	2-9 Governance Structure and Composition	46	
	2-10 Nomination and Selection of the Highest Governance Body		Corporate Governance Report > [304000] (Core Principle 4) <a href="https://dart.fss.or.kr/dsaf001/main.do?rcpNo=20250602800341">https://dart.fss.or.kr/dsaf001/main.do?rcpNo=20250602800341</a>
	2-11 Chair of the Highest Governance Body		Corporate Governance Report > [304100] (Detailed Principle 4-1) <a href="https://dart.fss.or.kr/dsaf001/main.do?rcpNo=20250602800341">https://dart.fss.or.kr/dsaf001/main.do?rcpNo=20250602800341</a>
	2-12 Role of the Highest Governance Body in Overseeing the Management of Impacts	12	
	2-13 Delegation of Responsibility for Managing Impacts	12	
	2-14 Role of the Highest Governance Body in Sustainability Reporting	12	
	2-15 Conflicts of Interest		Corporate Governance Report > [304300] (Detailed Principle 4-3) <a href="https://dart.fss.or.kr/dsaf001/main.do?rcpNo=20250602800341">https://dart.fss.or.kr/dsaf001/main.do?rcpNo=20250602800341</a>
	2-16 Communication of Critical Concerns	12	
	2-17 Collective Knowledge of the Highest Governance Body	Insufficient Information	Activities not conducted as current CEO was appointed in January 2025
	2-18 Evaluation of the Performance of the Highest Governance Body	46	
	2-19 Remuneration Policies	46	
	2-20 Process to Determine Remuneration	46	Corporate Governance Report > [306000] (Core Principle 6) <a href="https://dart.fss.or.kr/dsaf001/main.do?rcpNo=20250602800341">https://dart.fss.or.kr/dsaf001/main.do?rcpNo=20250602800341</a>
	2-21 Annual Total Compensation Ratio	60	
	2-22 Statement on Sustainable Development Strategy	4	
	2-23 Policy Commitments		<a href="https://www.kukdo.com/upload/inquiry/ESG-Management.pdf">https://www.kukdo.com/upload/inquiry/ESG-Management.pdf</a>
	2-24 Embedding Policy Commitments	12, 17, 19, 22, 25, 26, 29, 34, 39, 41, 42	
	2-25 Processes to Remediate Negative Impacts	38, 47	

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Category	Indicator	Reporting Page and Content	Remarks	
GRI 2: General Disclosures 2021	2-26	Mechanisms for Seeking Advice and Raising Concerns	47	
	2-27	Compliance with Laws and Regulations	53rd Business Report > XI. Other matters necessary for investor protection > 3. Matters related to penalties	
	2-28	Membership Associations	79	
	2-29	Approach to Stakeholder Engagement	15	
	2-30	Collective Bargaining Agreements	Not Applicable	No labor union; freedom of association and collective bargaining guaranteed through Labor-Management Council
GRI 3: Material Topics 2021	3-1	Process to Determine Material Topics	13	
	3-2	List of Material Topics	13, 14	
<b>Material Topic 1: GHG Emissions Management</b>				
GRI 3: Material Topics 2021	3-3	Management of Material Topics	19	
GRI 302: Energy 2016	302-1	Energy Consumption within the Organization	64, 70	
	302-3	Energy Intensity	64, 70	
	302-4	Reduction of Energy Consumption	20, 21	
GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG Emissions	64, 70	
	305-2	Indirect (Scope 2) GHG Emissions	64, 70	
	305-4	GHG Emissions Intensity	64, 70	
	305-5	Reduction of GHG Emissions	20, 21	
<b>Material Topic 2: Pollutant Emissions Management</b>				
GRI 3: Material Topics 2021	3-3	Management of Material Topics	17-18	
GRI 305: Emissions 2016	305-6	Emissions of Ozone-Depleting Substances (ODS)	-	No Related Emissions
	305-7	Nitrogen Oxides (NOx), Sulfur Oxides (SOx), and Other Significant Air Emissions	22, 65	
<b>Material Topic 3: Strengthening Compliance and Anti-Corruption Systems</b>				
GRI 205: Anti-Corruption 2016	3-3	Management of Material Topics	47	
	205-1	Operations Assessed for Risks Related to Corruption	9, 47, 53	
	205-2	Communication and Training about Anti-Corruption Policies and Procedures	38, 47, 58	
	205-3	Confirmed Incidents of Corruption and Actions Taken	53	
<b>Material Topic 4: Waste Management</b>				
GRI 306: Waste 2020	3-3	Management of Material Topics	25	
	306-1	Waste Generation and Significant Waste-Related Impacts	26	
	306-2	Management of Significant Waste-Related Impacts	25	
	306-3	Waste Generated	67	
	306-4	Waste Diverted from Disposal (Reuse, Recycling, etc.)	25, 28, 67	
306-5	Waste Directed to Disposal	25, 67		

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Category	Indicator	Reporting Page and Content	Remarks
Material Topic 5: Safe Workplaces			
GRI 403: Occupational Health and Safety	3-3	Management of Material Topics	34-35
	403-1	Occupational Health and Safety Management System	34-37
	403-2	Hazard Identification, Risk Assessment, and Incident Investigation	35
	403-3	Occupational Health Services	37
	403-4	Worker Participation, Consultation, and Communication on Occupational Health and Safety	34, 35, 41
	403-5	Worker Training on Occupational Health and Safety	35, 59
	403-6	Promotion of Worker Health	37
	403-7	Prevention and Mitigation of Occupational Health and Safety Impacts Directly Linked by Business Relationships	35-37
	403-9	Work-Related Injuries	35, 61
	403-10	Work-Related Ill Health	35, 61

## Non-Material Topics

Category	Indicator	Reporting Page and Content	Remarks
GRI 203: Indirect Economic Impacts 2016	203-1	Infrastructure Investments and Services Supported	43, 44
GRI 206: Anti-Competitive Behavior 2016	206-1	Legal Actions for Anti-Competitive Behavior, Anti-Trust, and Monopoly Practices	-
GRI 303: Water 2018	303-1	Interactions with Water as a Shared Resource	23, 24
	303-2	Management of Water Discharge-Related Impacts	23
	303-3	Water Withdrawal	65, 71
	303-4	Water Discharge	65, 71
	303-5	Water Consumption	65, 71
	GRI 308: Supplier Environmental Assessment 2016	308-2	Negative Environmental Impacts in the Supply Chain and Actions Taken
GRI 401: Employment 2016	401-3	Parental Leave	62
GRI 402: Labor/Management Relations 2016	402-1	Minimum Notice Periods Regarding Operational Changes	-
GRI 404: Training and Education 2016	404-1	Average Hours of Training per Year per Employee	58, 69
	404-2	Programs for Upgrading Employee Skills and Transition Assistance Programs	38, 58, 59, 69
	404-3	Percentage of Employees Receiving Regular Performance and Career Development Reviews	57
GRI 405: Diversity and Equal Opportunity 2016	405-1	Diversity of Governance Bodies and Employees	46, 56, 68
	405-2	Ratio of Basic Salary and Remuneration of Women to Men	60
GRI 406: Non-Discrimination 2016	406-1	Incidents of Discrimination and Corrective Actions Taken	40
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1	Operations and Suppliers Where Freedom of Association and Collective Bargaining May Be at Risk	-
GRI 408: Child Labor 2016	408-1	Operations and Suppliers at Significant Risk for Incidents of Child Labor	-
GRI 409: Forced or Compulsory Labor 2016	409-1	Operations and Suppliers at Significant Risk for Incidents of Forced or Compulsory Labor	-
GRI 411: Rights of Indigenous Peoples 2016	411-1	Incidents of Violations Involving Rights of Indigenous Peoples	-
GRI 414: Supplier Social Assessment 2016	414-2	Negative Social Impacts in the Supply Chain and Actions Taken	39, 63
GRI 415: Public Policy 2016	415-1	Political Contributions	-

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# UN SDGs Index

The United Nations Sustainable Development Goals (SDGs) are a set of global goals adopted by UN Member States in 2015. Kukdo Chemical aligns its business strategy and operations with the SDGs, integrating sustainability across environmental, social, and governance (ESG) dimensions, while enhancing its management systems. In collaboration with stakeholders, the company establishes targets and discloses performance transparently, contributing to sustainable value creation and long-term corporate value enhancement.

UN SDGs	Objective	Kukdo Chemical's Activities	Page
	Good Health and Well-being	Operates an occupational health and safety system to protect employees' health and safety, and promotes a safety culture through campaigns, awards, and other initiatives. Enhancing working conditions and welfare programs further contribute to creating a safe and healthy workplace for all.	34-37
	Quality Education	Improves HR systems to empower employees and operates talent strategies that pursue both growth and organizational sustainability. Company-wide training programs continuously strengthen job expertise and leadership.	37-38
 	Gender Equality / Reduced Inequalities	Provides equal pay regardless of gender and eliminates discriminatory factors throughout all HR processes to ensure fair opportunities. Implements a variety of policies and systems to advance equality and inclusion.	40-41
	Clean Water and Sanitation	Operates a systematic water quality management system to minimize the environmental impact of wastewater. Promotes recycling and reuse to reduce water consumption, contributing to stable wastewater treatment and strengthened water resource circulation.	24
	Responsible Consumption and Production	Focuses on developing bio-based materials and improving processes to enhance productivity and resource efficiency across all operations. In particular, hardener products that achieved GHG reduction have obtained ISCC Plus certification.	27-32
	Climate Action	Established a climate strategy and transition framework, set GHG reduction targets, operates an Energy Management System, considers climate change in investment reviews, and implements GHG reduction projects to lead climate action.	19-21

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# GHG Verification Statement

## Verification Criteria and Scope

LRQA was commissioned by Kukdo Chemical Co., Ltd. (hereinafter "Kukdo Chemical") to provide independent assurance of the company's 2024 Greenhouse Gas (GHG) Emissions and Energy Consumption Statement (hereinafter the "Statement"). The verification criteria were the "Guidelines on Reporting and Certification of Emissions under the GHG Emissions Trading Scheme" and Kukdo Chemical's "2024 Emissions Calculation Plan." The assurance was conducted in accordance with the "Verification Guidelines for the Operation of the GHG Emissions Trading Scheme." The Statement covers direct GHG emissions, indirect GHG emissions from energy use, and energy consumption.

## Responsibility of Management

The responsibility of LRQA is limited solely to Kukdo Chemical. LRQA does not assume obligations or responsibilities to any other parties or organizations. Kukdo Chemical's management is responsible for maintaining effective internal controls over the data and information included in the report. Ultimately, the report has been approved by Kukdo Chemical and remains the responsibility of its management.

## LRQA's Verification Approach

The verification was conducted by LRQA to a reasonable level of assurance, in accordance with the "Verification Guidelines for the Operation of the GHG Emissions Trading Scheme."

The assurance process was based on sampling and included the following activities:

- On-site inspections of facilities and a review of systems for managing data and records related to GHG emissions and energy use.
- Interviews with staff responsible for managing GHG emissions and energy use data and records.
- Verification of 2024 GHG emissions and energy use data and records down to the source data level.

## Level of Assurance and Materiality

The opinion expressed in this Assurance Statement is based on a reasonable level of assurance. It reflects the professional judgment of the assurance team and was derived using a 5% materiality threshold.

## LRQA's Opinion

Based on the assurance approach and activities performed, LRQA concludes that Kukdo Chemical's Statement has been prepared in compliance with the "Guidelines on Reporting and Certification of Emissions under the GHG Emissions Trading Scheme" and the "2024 Emissions Calculation Plan." Accordingly, LRQA expresses a reasonable assurance opinion that the information, including the GHG emissions presented in Table 1, is fairly stated.

**Table 1. GHG Emissions in the Statement**

(Unit: tCO<sub>2</sub>-eq)

Scope	2024
Direct GHG Emissions	17,753.598
Indirect GHG Emissions from Energy	47,093.874
Total GHG Emissions	64,844.000

For and on behalf of LRQA

30 Sowol-ro 2-gil, Jung-gu, Seoul, Republic of Korea, T Tower 2F  
LRQA Contract No.: SEO6047623 SEO6047623

March 27, 2024

Il Hyung Lee, Korea Operation Manager of LRQA



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# Independent Assurance Statement

## To the Stakeholders of Kukdo Chemical Co., Ltd.

**Overview**

BSI (British Standards Institution) Group Korea (hereinafter the "Assurer") was engaged to provide assurance of the Kukdo Chemical 2024 Sustainability Report (hereinafter the "Report"). The Assurer is independent from Kukdo Chemical and has no significant operational or financial interest in the company beyond this engagement. The purpose of this Assurance Statement is to provide stakeholders with information on the outcomes of the assurance of Kukdo Chemical's environmental, social, and governance (ESG) disclosures contained in the Report. It shall not be used for any purpose other than that for which it was issued. This Assurance Statement is based on the results of verification of the information and claims presented by Kukdo Chemical. The assurance was performed on the assumption that the underlying evidence and data provided were complete and accurate. Kukdo Chemical is responsible for managing the relevant information included within the assurance scope, maintaining related internal control procedures, and bearing full responsibility for the information and claims disclosed in the Report. Any inquiries regarding the Report, including this Assurance Statement, should be directed to Kukdo Chemical. The Assurer's responsibility is to provide Kukdo Chemical's management with an independent assurance opinion, based on the application of assurance methodologies within the defined scope, and to make this information available to all stakeholders of Kukdo Chemical. In providing this Assurance Statement, the Assurer accepts no responsibility or liability, including legal responsibility, to any third party other than Kukdo Chemical, nor for any other use, purpose, or stakeholders related to such use or purpose.

**Scope**

The scope of assurance, as agreed with Kukdo Chemical, is as follows:

- Reporting content for the period from January 1, 2024 to December 31, 2024, with certain performance data including the first half of 2025;
- Key information and claims included in the Report, such as sustainability policies, strategies, targets, and related business performance;
- The appropriateness and robustness of internal processes and systems for data collection, analysis, and review;
- Compliance with the four principles of the AA1000 AccountAbility Principles (2018), assessed in accordance with the type of sustainability assurance under the AA1000 Assurance Standard v3.

The following were excluded from the scope of assurance:

- Financial information presented in the Report Appendix;
- Index items related to other international standards, norms, or sustainability initiatives, excluding GRI, presented in the Report Appendix;
- Supplementary information disclosed on the corporate website, annual business report, or other linked sources.

**Assurance Level and Type**

The assurance level and type are as follows:

- In accordance with the AA1000 Assurance Standard v3, a Moderate Level assurance was conducted. The assurance was performed as a Type 1 engagement, verifying Kukdo Chemical's adherence to the four principles of the AA1000 AccountAbility Principles (2018).

**Description and sources of disclosures covered**

Based on the defined assurance scope and applied assurance methodologies, the Assurer reviewed the following disclosures by sampling the information and data provided by Kukdo Chemical:

**[Universal Standards]**

2-1 to 2-5 (The organization and its reporting practices), 2-6 to 2-8 (Activities and workers), 2-9 to 2-21 (Governance), 2-22 to 2-28 (Strategy, policies, and practices), 2-29 to 2-30 (Stakeholder engagement), 3-1 to 3-3 (Material Topics Disclosures)

**[Topic Standards]**

203-1, 205-1~3, 206-1, 302-1, 302-3~4, 303-1~5, 305-1~2, 305-4~7, 306-1~5, 308-2, 401-3, 402-1, 403-1~10, 404-1~3, 405-1~2, 406-1, 407-1, 408-1, 409-1, 411-1, 414-2, 415-1

**Methodology**

The assurance was conducted in compliance with the assurance criteria, using methodologies designed to gather relevant evidence and reduce the risk of error in the reported content. The following activities were undertaken:

- Reviewed and validated the legitimacy of the internal processes for materiality assessment and prioritization of material topics, considering potential stakeholder concerns in the broader sustainability context;
- Conducted discussions with responsible staff and management regarding stakeholder engagement;
- Verified the appropriateness of the evidence supporting the reported material topics and claims through interviews with senior managers responsible for, or related to, the identified material topics;
- Examined the processes for implementing sustainability strategies, including the systems established to execute them, and reviewed procedures for generating, collecting, and reporting data across performance areas;
- Conducted a site visit to Kukdo Chemical's headquarters to assess the effectiveness of data collection processes, internal control procedures, and management measures;
- Evaluated the reporting and management processes against the four AA1000 AccountAbility Principles (2018): Inclusivity, Materiality, Responsiveness, and Impact.

**Limitations and approach used to mitigate limitations**

The assurance was conducted within a limited timeframe and was based on the data and information provided by the reporting organization. Accordingly, this assurance carries inherent limitations related to unavoidable risks, although no material errors were identified during the process. The Assurer does not provide assurance over potential future impacts or additional aspects that could not be reasonably predicted or verified during the assurance process.

**Competency and Independence**

BSI (British Standards Institution) is a globally recognized independent professional body with expertise in management systems, including quality, environment, occupational health and safety, energy, anti-bribery, and compliance. Established in 1901, BSI has provided certification

and assurance services worldwide for more than 120 years. The Assurer has no business relationship with the reporting organization, conducted the assurance independently, and has no conflicts of interest. The assurance team was composed of AA1000 Assurance Standard-qualified auditors with extensive experience in management systems such as environment and occupational health and safety, as well as sustainability areas including social responsibility and corporate ethics, and with in-depth knowledge of BSI Group's assurance methodologies.

**Opinion Statement**

This assurance engagement was conducted in accordance with the AA1000 Assurance Standard v3. The Assurer planned and performed the assurance procedures to obtain sufficient evidence to provide assurance on Kukdo Chemical's approach to the AA1000 Assurance Standard and on the company's self-declaration of compliance with the GRI Standards. Based on the procedures performed, nothing has come to the Assurer's attention that causes us to believe that the information and data presented in Kukdo Chemical's Report are materially misstated. The Assurer believes that the key sustainability performance indicators related to economic, social, and environmental aspects disclosed in the Report are managed through Kukdo Chemical's effective internal control procedures.

**Conclusions**

The Report is considered to have been prepared in accordance with the GRI Standards 2021 reporting principles. The Assurer's opinion on Kukdo Chemical's adherence to the four principles of the AA1000 AccountAbility Principles (2018) is as follows:

**Inclusivity**

Kukdo Chemical has identified its stakeholders and designated customers, shareholders/investors, suppliers/partners, employees, and local communities/government as its key stakeholder groups. To capture perspectives from these stakeholders in the broader sustainability context, the company operates structured stakeholder engagement processes. Reviews are conducted on these engagement processes to ensure that issues raised through stakeholder communication channels are reflected in Kukdo Chemical's sustainability strategies and targets, and the outcomes of such processes are disclosed in the Report.

**Materiality**

Kukdo Chemical has implemented a proprietary materiality assessment process tailored to its core business characteristics and operational context in order to identify significant sustainability-related reporting topics. The company conducted analyses of international disclosure standards, industry peer benchmarking, and media research, and assessed both financial and social/environmental impacts to determine the material topics for the reporting year. Through this process, Kukdo Chemical identified five material topics, and the related GRI Topic Standards disclosures are presented in the Report.

**Responsiveness**

Kukdo Chemical operates management processes to address the material topics identified through its materiality assessment within the broader sustainability context. In establishing its mid- to long-term sustainability plans and targets, the company applies a proprietary management methodology designed to effectively incorporate the expectations of key stakeholders. Based on this approach, Kukdo Chemical discloses in the Report its principal responses, including methodologies, performance, and improvement measures related to the reported material topics.

**Impact**

Kukdo Chemical identifies the scope and magnitude of the impacts of its reported material topics on both the organization and its key stakeholders, and operates processes to evaluate these impacts. Based on the analysis of significant impacts, including risks and opportunities associated with the material topics, the company establishes its sustainability strategies and targets, develops mid- to long-term plans and strategic frameworks to achieve them, and discloses the outcomes of these processes in the Report.

**Recommendations and Opportunity for improvement**

The Assurer provides the following recommendations, which do not affect the assurance opinion:

- In line with Kukdo Chemical's mid- to long-term sustainability strategy, further detailing the targets and action plans for each material topic identified through the materiality assessment, and disclosing annual progress and improvement measures, could strengthen the company's sustainability management framework.
- Structuring the sustainability-related decision-making and oversight functions of the Board of Directors and management, and further defining the roles and responsibilities of sustainability-related organizational units, could enhance the governance of the sustainability management system.
- Further specifying the methodologies and management systems for calculating key sustainability performance indicators (KPIs) in areas such as environment and society, and reinforcing internal control procedures, could help advance the maturity of Kukdo Chemical's sustainability management framework.

**GRI-reporting**

Kukdo Chemical has self-declared compliance with the GRI Standards. The Assurer has verified that the Report has been prepared in accordance with the GRI Standards 2021 reporting principles, and, based on the data and information provided by Kukdo Chemical, found no evidence to suggest that the company's claims regarding compliance with the requirements of the GRI Standards—including both the Universal Standards and Topic Standards—are misstated. No separate Sector Standards were applied.

Issue Date: 09/09/2025

For and on behalf of BSI (British Standards Institution):

Hold Statement Number: SRA 829559

BSI representative



*[Signature]*  
Jeong Woo Lee, Head of Assurance Team

*[Signature]*  
Seong Hwan Lim, Chief Executive Officer

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# UNGC

Kukdo Chemical became a participant in the United Nations Global Compact (UNGC) in September 2023. The UNGC is a voluntary initiative that calls on companies to align their strategies and operations with ten universally accepted principles in the areas of human rights, labor, environment, and anti-corruption. Through this participation, Kukdo Chemical demonstrates its commitment to responsible business practices and to embedding sustainability into its business model by integrating environmental stewardship, social responsibility, and sound corporate governance. The company adheres to the UNGC's ten principles and actively implements initiatives to put these values into practice across its operations.

Category	UNGC 10 Principles
Human Rights	Principle 1. Businesses should support and respect the protection of internationally proclaimed human rights.
	Principle 2. Businesses should make sure that they are not complicit in human rights abuses.
	Principle 3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.
Labor	Principle 4. Businesses should uphold the elimination of all forms of forced and compulsory labor.
	Principle 5. Businesses should uphold the effective abolition of child labor.
	Principle 6. Businesses should uphold the elimination of discrimination in respect of employment and occupation.
Environment	Principle 7. Businesses should support a precautionary approach to environmental challenges.
	Principle 8. Businesses should undertake initiatives to promote greater environmental responsibility.
	Principle 9. Businesses should encourage the development and diffusion of environmentally friendly technologies.
Anti-Corruption	Principle 10. Businesses should work against corruption in all its forms, including extortion and bribery.



To Mr. Si Chang Lee, CEO of Kukdo Chemical Co., Ltd.

Dear Mr. Lee,

We are delighted to welcome Kukdo Chemical Co., Ltd. as a participant of the United Nations Global Compact (UNGC). We also wish to express our gratitude for your commitment, as demonstrated in your letter to UN Secretary-General António Guterres, to advancing the UNGC's Ten Principles and the Sustainable Development Goals (SDGs)

The UN Global Compact is the world's largest corporate sustainability initiative, with more than 20,000 participating companies and organizations across over 160 countries. Since its establishment in September 2007, the UN Global Compact Network Korea has been supporting Korean companies and institutions in implementing the Ten Principles of the UNGC and embedding the values of human rights, labor, environment, and anti-corruption into their policies and operations.

The UN Global Compact Network Korea supports member companies in their implementation activities through a variety of conferences, seminars, and workshops, as well as research and policy recommendations on sustainability management, networking and dialogue opportunities, and projects related to corporate social responsibility and the SDGs. We also assist members in effectively communicating their COP (Communication on Progress) and COE (Communication on Engagement) reports with stakeholders, while promoting their best practices internationally and working to position Korea as a leading country in the field of corporate sustainability.

We look forward to Kukdo Chemical's active participation and engagement in our initiatives, which we believe will make a significant contribution to enhancing your company's sustainability performance.

We wish you continued success and prosperity.

September 10, 2023

Yeon Cheol Yoo  
Secretary-General  
UN Global Compact Network Korea

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Korea Polyurethane Industry Association, Inc.
Korea Wind Energy Industry Association
Korea Wind Energy Association
Korea Nanotechnology Convergence Industry Association
Korea Carbon and Nano Industry Association
Public-Private Council for Integrated Environmental Management Sites
Iksan City Corporate Environmental Council
Jeollabuk-do Corporate Environmental Council
Noksan Wastewater Treatment Plant Stakeholder Forum
Ansan-Siheung Environmental Technologists Association
Siheung Council for Sustainable Development
UN Global Compact Network Korea
Korea Industrial Safety Association
Safety and Health Council
Hazardous Materials Fire Safety Management Council
Chemical Safety Community
Hazardous Materials Safety Council
Process Safety Management Council (PSM Council)
Busan Northern Safety Practitioners Association
Noksan National Industrial Complex Joint Public-Private Chemical Accident Response Council
Process Safety Management Council
Noksan National Industrial Complex Managers' Association
Korea Electrical Engineers Association
Chemical Plant Safety Management Council
Iksan Plant Development Council

Name of Association
Iksan Chamber of Commerce and Industry
Jeonbuk Environmental Technologists Association
Iksan Regional Hazardous Materials Fire Safety Management Council
Jeonbuk Regional Chemical Plant Association
Korea Fire Safety Institute (KFSI)
Daesan Industrial Safety Association, Jeonbuk Chapter
Korea Industrial Technology Association
Korea Listed Companies Association
Korea Chamber of Commerce and Industry (KCCI)

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**Contact** : Sustainability Team, Kukdo Chemical Co., Ltd.

**E-mail / Phone** : esg@kukdo.com

