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INTRODUCTION

CEO Message About Us

CEO Message



Dear stakeholders,

I am Si Chang Lee, CEO & Chairman of Kukdo Chemical Co., Ltd.

Since our establishment in 1972, Kukdo Chemical has been striving to become the world's leading chemical materials company by developing and supplying high value-added chemical materials applicable diverse industries worldwide. At the same time, we have committed embodying the values of corporate management that contribute to the success of our customers and the sustainable development and prosperity of our society.

In order to more systematically promote the company's sustainability management in 2023, we are recruiting ESGrelated experts, establishing a dedicated organization, and revising various policies and regulations, and focusing on the following activities.

First, we have developed and implemented specific plans to reduce energy consumption usage, expand the use of alternative energy, and reduce wastewater and waste with the goal of achieving carbon neutrality.

Second, we are promoting the development of bio-based materials and eco-friendly chemical recycling processes for the sustainability of chemical materials.

Third, we are establishing a more systematic decision-making system, delegation of authority, and operating methods for transparent management of the company.

Fourth, we are striving to fulfill our responsibility and role as a company that contributes to the development of our society through corporate social responsibility activities centered on local communities.

Starting with the publication of this Sustainability Factbook, we promise to be a company that actively and transparently communicates with all of our stakeholders to create a sustainable future.

June 2024

Si Chang Lee, CEO&Chairman, Kukdo Chemical Co., Ltd.

About Us

Overview

Company name	Kukdo Chemical Co., Ltd.
CEO	Lee Si Chang, Heo Yeon Jin
Date of establishment	February 22, 1972
Headquarters	61, Gasan Digital 2-ro, Geumcheon-gu, Seoul
Financial performance (consolidated, as of 2023)	Revenue KRW 1311.8 billion Operating Profit KRW 19.2 billion
Key businesses	Epoxy resin, Hardner, Polyols
Total number of employees (as of end of May 2024)	1,383 people

Value System

Kukdo Chemical constantly innovates and challenges itself with the vision of becoming the top chemical materials company beyond its excellence as an epoxy manufacturer. We contribute to a richer life and create the value our future needs.

VISION

Global Best Chemical Materials Company beyond No.1 Epoxy Company

Core values

Faithfulness Competence Sustainability

Mission

We contribute to our customers' success as a partner providing chemical materials for the best value

Management Philosophy Customer Orientation,
Mid-long-term Prediction and Preparation,
Employees' Happiness,
Ceaseless Challenge and Innovation,
Responsibility toward Shareholders,
Legitimacy and Justice, Social Responsibility

About Us

Business areas

Kukdo Chemical manufactures and supplies functional chemical materials optimized for various industries.

Applications Featured Products



Epoxy Resin

- Epoxy Resin
- Phenoxy Resin
- Reactive Diluent

Curing Agent

- Polyamide Hardener
- Polyamine Hardener
- Phenalkamine Resin
- Hardening Accelerator

Polyurethane

- Polyether Polyol
- System Polyol
- Polyurea
- PUD

Applied Materials

- Composites
- Acrylates (Epoxy, Urethane)
- 3D Printing Materials
- Heavy Electric Materials

Advanced Electronic Material

- ACF(Anisotropic Conductive Film)
- High Purity/Functional Resin for Display & Semiconductor
- Polyimide

Raw Materials

- Phenol Novolac
- BPA Novolac
- Ortho Cresol Novolac
- Bisphenol-F

About Us

Global Network

Kukdo Chemical is building an optimal network by establishing strategic bases in major regions in Korea and abroad.

Korea

Seoul
Siheung
Hwaseong

Iksan

Headquarters (Seoul)



West Operations (Iksan)



South Operations (Busan)



Central Operations (Siheung)



Kukdo Advanced Materials (Hwaseong)



Kukdo Finechem (Busan)

International



Manufacturing Subsidiary

China Kukdo Chemical (Kunshan) Co., Ltd.
Kukdo Chemical (Ningbo) Co., Ltd.
India Kukdo Chemical India Pvt. Ltd.

Marketing Subsidiary

Germany Kukdo Europe GmbH
USA Kukdo Chemical America Inc

Warehouse

N. America USA Chicago, Houston, Newark, Atlanta, Detroit, Savannah, Charlotte, Jacksonville

,

Europe Türkiye Istanbul
Netherland Rotterdam
Slovenia France Koper
Marseille

SUSTAINABILITY OVERVIEW

Sustainability Strategy 2023 Highlights Eco-friendly Products

Sustainability Management Strategy

Sustainability Management Strategy

Sectors

Kukdo Chemical has established and implemented the following strategies to establish a sustainability management system.

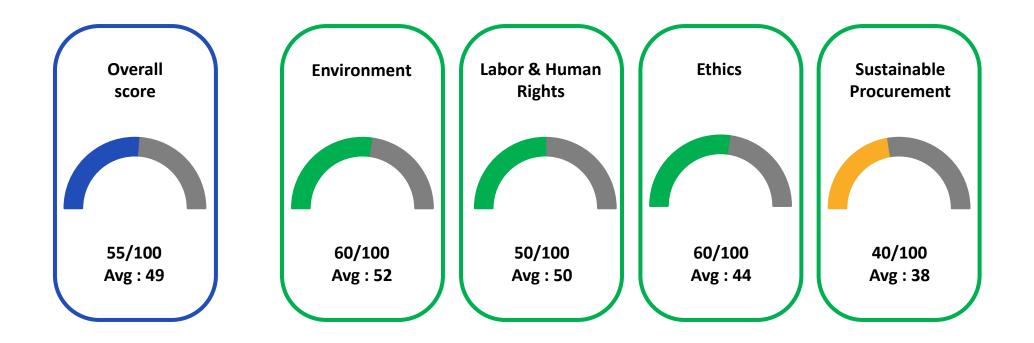
Goals

Detailed action items

Environmental incident prevention and response Reductions in energy consumption, mitigation of pollutants (air/water/waste), reductions in greenhouse gas emissions **Environment** Implementation of LCA/PCF tasks **Declaration of carbon neutrality** "Building a Sustainability Establishing a family-friendly company and a cooperative labormanagement culture Management System" Introducing a Safety and Health program for suppliers Setting fair trade principles and complying with the principle of fair "Carbon Neutrality" Social business partner selection Conducting fair trade training for employees Acquiring certifications for customer information protection system "Corporate social International initiative activities responsibility" Contribution to the local economy **Sustainability Management Committee** Governance Information disclosure and publication of sustainability reports Anti-corruption system certification and human rights management

EcoVadis Assessment Results

To evaluate its sustainability management, Kukdo Chemical receives annual assessments by EcoVadis, the world's No. 1 rating agency, from which we won the Bronze Medal in 2023. Kukdo Chemical will keep advancing all areas of sustainability management for its continuous improvement and development.



UNGC

WE SUPPORT



Kukdo Chemical joined the UN Global Compact in September 2023.

The UNGCs are a voluntary agreement that requires companies to internalize 10 core principles in four areas of corporate social responsibility—human rights, labor, environment, and anti-corruption—into their operations and business strategies, and to enhance sustainability and corporate consciousness. It expresses the company's commitment to socially responsible management and represents a management philosophy that pursues sustainable development by considering environmental protection, socially responsible management, and improved governance in its business activities.

Based on the UN SDGs, Kukdo Chemical will continue to seek to enhance the sustainability of our business activities.

ISCC Plus



In December 2023, Kukdo Chemical obtained ISCC PLUS certification for all of our business sites in Korea.

ISCC PLUS certification is the most trusted international environmental certification that is based on objective and transparent verification of the entire process, from raw materials to final products. Kukdo Chemical was able to obtain certification for our epoxy products in recognition of the reduced carbon emissions and environmental friendliness of products made from biomass raw materials.

This is an official recognition of our environmental competitiveness, and we plan to continue to expand the scope of certification for biomass-based products.

ISO 50001



In December 2023, Kukdo Chemical obtained ISO 50001 certification for all business sites in Korea.

ISO 50001 certification is an international certification of an energy management system that monitors energy use at the business level and ensures systematic and efficient design, procurement, and management activities to reduce energy use. Kukdo Chemical monitors energy usage by business site and energy type, and based on this, we are implementing activities to achieve our energy management goals.

ISO 37301



In June 2023, Kukdo Chemical obtained ISO 37301 certification for our business sites in Korea.

ISO 37301 is an international certification for compliance management systems given to a company with a compliance policy and risk response system for compliance risks anticipated throughout the company's operations that meet international standards.

Kukdo Chemical manages compliance risks by appointing compliance managers for each sector, establishing anticorruption processes, and conducting management activities in line with the company's management philosophy of "legal and just management."

2024 we plan to obtain ISO 37001¹⁾ (Anti-bribery management systems) certification to further strengthen our ethical management.

1) Obtained in 2024 11/36

Strengthening Education and Training

Kukdo Chemical provides various trainings related to ESG, compliance, and human rights awareness to strengthen employees' sustainability management capabilities. For each employee's job function, we also provide environmental education on greenhouse gas reduction and climate change, as well as safety training about fire response and handling hazardous chemicals.

ESG Capacity Building

Training

- For all employees
- Targeting ESG officers in each department
- Intensive course for executives



Human Rights and Social

Education

- Compliance
- Improving awareness on people with disabilities
- Preventing sexual harassment in the workplace
- Fair trade



Environmental and safety training

Climate change

- · Carbon neutrality
- Fire response
- · Occupational Safety and Health
- · Handling hazardous chemicals



Other training

- Leadership competencies
- Job competencies
- Introduction for incoming recruits
- Developing the next generation of leaders



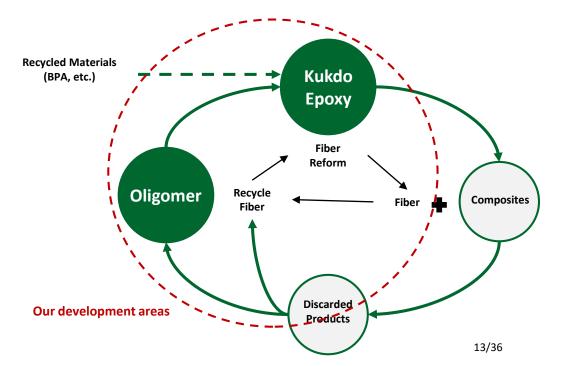
Eco-friendly Product

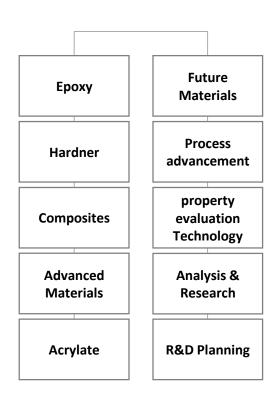
Green product research and development

Kukdo Chemical is developing and supplying various eco-friendly products by identifying the needs of customers and markets around the world. We will develop our products in a way that minimizes their environmental impact throughout the entire product lifecycle, from production to consumption to disposal.

Epoxy Recycling System

- Organization of the R&D sector
- ✓ Kukdo Chemical is collaborating with global wind power manufacturers to develop an epoxy recycling system.
- ✓ We plan to develop innovative technologies to recycle and utilize materials for various applications in addition to wind power generation to meet the needs of our customers while contributing to environmental protection.





ESG Performance

Environment Social Governance

ESG Performance

Environment



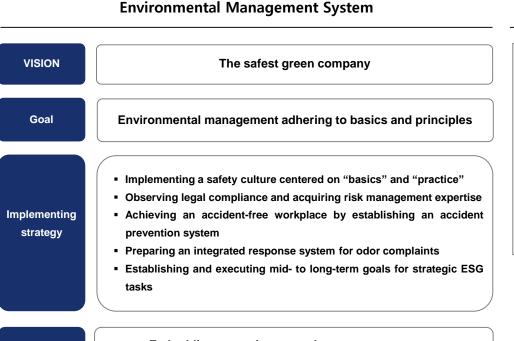
Environmental Management Environmental Metrics Management

Environmental Management

Environmental Management

Foundation

As a global chemical materials company, Kukdo Chemical has established and strictly complies with environmental policies and regulations to minimize the environmental impact of all of our activities, including product procurement, production, and sales. Based on this environmental policy, we are promoting company-wide activities to protect the environment and position ourselves as a supplier of eco-friendly products.



Environmental Policy



ISO 14001

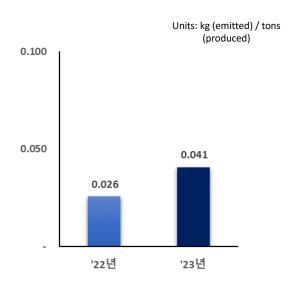


Embedding an environmental management system and active participation of all departments and personnel

Environmental Metrics Management

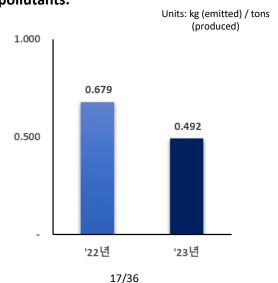
Air pollutants

✓ To minimize the environmental impact of air pollutant emissions, Kukdo Chemical is reducing the amount at all of our sites. To this end, we have introduced THC reduction facilities to mitigate air pollutants directly generated during the process and installed RTO and activated carbon adsorption towers at all plants to reduce VOC emissions.



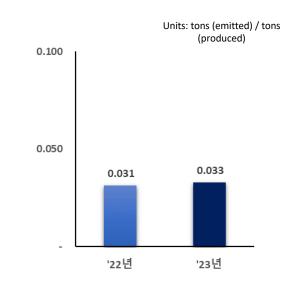
Water pollutants

✓ We operate our own wastewater treatment plant to manage water pollutants generated during the manufacturing of our products. At this moment, we are preparing to automate each wastewater treatment plant with DCS, and will adjust the management criteria from COD to TOC. We will also introduce post-treatment facilities and zerodischarge facilities to further reduce water pollutants.



Waste

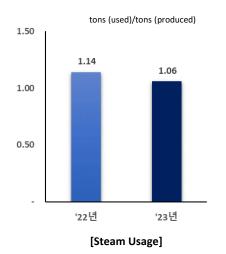
✓ Waste generated during the production and life cycle of our products are managed and reduced by sector and stage. Moreover, we manage our waste by categorizing general waste and designated waste for efficient reduction.

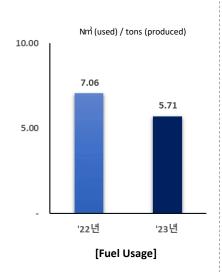


Environmental Metrics Management

Energy usage

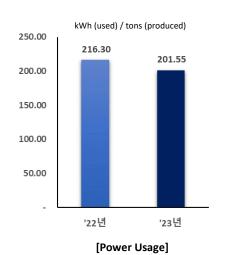
Kukdo Chemical manages energy use for product production and logistics management by business site, and in 2023, we introduced an energy management system and obtained ISO 50001 certification. We are considering the introduction of detailed process-specific energy metering equipment to reduce energy use. Also, we are examining the installation of solar panels on our business sites to introduce renewable energy sources.

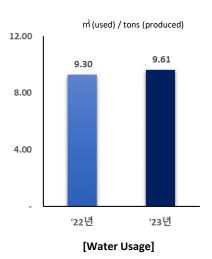




Water usage

Kukdo Chemical manages water usage by purpose and use, and treats wastewater through wastewater treatment plants at each business site. We are working to minimize water usage by training wastewater treatment plant operators to optimize operating conditions and by recycling cooling water and wastewater for condensers.

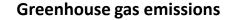




Environmental Metrics Management

Greenhouse Gas Emission Management

Kukdo Chemical calculates the amount of greenhouse gas emissions generated directly and indirectly during the process and manages them at each business site. In order to increase company-wide awareness of our GHG emission efforts, we continue to educate employees on carbon emission management and reduction. We are preparing to reduce GHG emissions and eventually declare carbon neutrality.



Unit: tCO2-ea 55,575 '23년 44.494 11,084 43,843 '22년 36,269 7,574 10,000 20,000 40,000 50,000 60,000 30,000 ■ Scope 1+2 ■ Scope 2 ■ Scope 1

Efforts to reduce CO₂

- √ The epoxy production process primarily uses electricity and steam as energy sources.
- ✓ We are considering installing solar panels in our sites to reduce greenhouse gas emissions and will continue to introduce various renewable energy sources in the future.
- ✓ At the Busan and West operation, we use steam from bio SRF to reduce greenhouse gas emissions.

X Busan Plant 2 started operations in 2023

ESG Performance

Social



Safety and Health Management
Human Resources Management
Supply Chain Management
Human Rights & Diversity

Safety and Health Management

Safety and Health Management

Kukdo Chemical prioritizes the safety and well-being of our employees, suppliers, customers, and the local community. We are committed to fostering a secure working environment for all employees.

Safety Culture

- Achieved 100% safety compliance rate
- · Substantial operations of on-site safety activities
- Customized operations of safety training programs
- Adopted safety culture events as a regular occurrence

Prevention Framework

- Ensuring effective measures for preventing recurrence of accidents
- Reexamining procedure forms for plant expansions and handling new materials
- Realigning the licensing compliance review checklist
- Fully preparing the volatility response system in the production sector
- Building and operating a sound EHS System

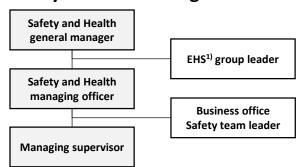
Expert Capacity

- Operating a collaborative system that meets licensing timelines
- Achieved a PSM rating of S or higher
- Acquired an Integrated Environmental Assessment rating of Good or better
- Advanced EHS expertise
- Learning from the best domestic EHS practices

Complaint Response

- Conducting expert diagnostics and data-driven management
- Securing safety of RTO operations and improving operational skills
- Operating TMS and complying with total air emissions regulations

Safety and Health Organizational Chart



■ ISO 45001





21/36

Disseminating a Culture of Safety and Health

Safety and Health training

✓ Kukdo Chemical regularly conducts relevant education and training to create a healthy life and safe working environment for our employees. We also simulate specific safety threats, such as fires, personnel accidents, heat waves and extreme cold, and thoroughly practice drills to prepare for these scenarios.



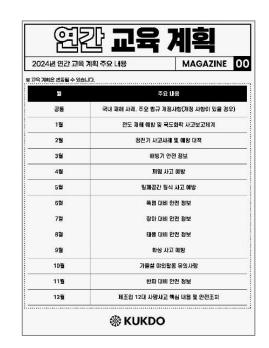






Embedding a safety culture

✓ We are spreading a culture of safety as a top priority to all employees across all of our business sites. We publish a monthly SAFETY MAGAZINE to raise safety awareness, and designate July as Safety Culture Month every year to conduct intensive training programs.





Human Resources Management

Kukdo Chemical operates various welfare programs and labor-management communication channels to improve the working environment and quality of life for employees. We value each and every one of our employees and will work harder to create a work-life balance environment.

Improving working environment

- ✓ Flexible work arrangements
- **✓** Smart Office
- ✓ Autonomous seating

Enhancing quality of life

- √ Housing support
- √ Congratulations and condolences allowance
- √ Financial aid for education
- ✓ Welfare points

Managing Safety and Health

- ✓ Precision health checkups
- **✓** Occupational Safety and Health Committee





Labor-Management Communication

- ✓ Labor management
- √ Report filing system
- the organization

Other support

- council
- ✓ Efforts to vitalize







- ✓In-house fitness centers
- ✓ Sleeping/lactation room
- √ Vacation facilities
- **✓ Clubs**

Human Resources Management

Education and Training

Induction Training for New Employees

Kukdo Chemical offers a variety of training programs to help new employees make a smooth transition to the organization and work. We also have a mentoring program to help new and existing employees better understand each other and integrate into the organization's culture.



Employee Job Training

We actively support our employees with position- and job-specific training to ensure they have the skills they need to do their jobs. All employees are eligible to apply for and attend internal and external training based on their job function and position.



• In-house Language Classes

We offer in-house language programs to strengthen our employees' foreign language skills. Currently, we are offering classes in English, Japanese, and Chinese, and subsidize language test fees to help our employees actively grow their capacity.



Sustainable Procurement Policy

Sustainable Procurement Policy

Resolution

Nondiscrimination

the company.

The basic principles of procurement are compliance with ethics and laws, anti-corruption, and minimization of environmental impact. Based on this, Kukdo Chemical collaborates with partners from a sustainability perspective and seeks joint growth by enacting and distributing the code of conduct that partners must comply with.

Supplier Code of Conduct We shall comply with laws and regulations and conduct business in an ethical manner. **Ethics** We shall not engage in unfair trade practices or behaviors that undermine fair market order and competition. Fairness We shall be responsible for measuring, managing, and minimizing environmental impacts, including the reduction of greenhouse **Environment** gases, pollutants, and waste emissions. Safety We shall establish procedures for managing accidents in the workplace and allocate sufficient budget for this purpose. Sustainability We shall regard sustainability as a core business value and ask our suppliers to comply with and support this commitment. Grievance We shall have a grievance system in place that protects the identity of the complainant and prohibits any form of retaliation.

We shall not discriminate on the basis of gender, race, national origin, religion, or disability in hiring, employment, or treatment in

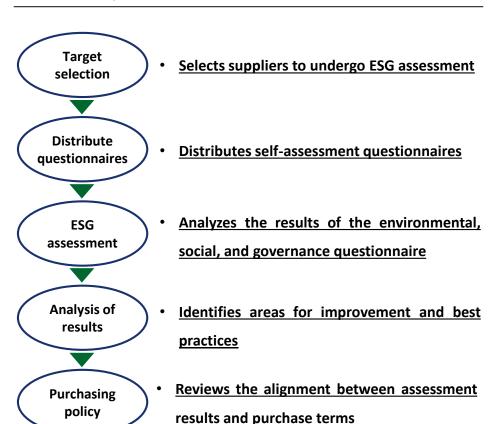
Supply Chain Management

Supply Chain ESG Assessment

Kukdo Chemical conducts ESG assessments to build a sustainable supply chain and strengthen cooperation in sustainability.

Supply Chain ESG Assessment Framework

ESG Assessment Results



Methodology

- · Target: 21 major raw material suppliers
- Assessment method
 - Evaluation of 30 environmental, social, and governance categories
 - Weighted by sector based on supplier's industry conditions

2023 Assessment Results

· 7 excellent, 7 good, 4 poor

Future plans

- · Expanding the number of raw material suppliers assessed
- Applying assessments to suppliers other than those providing raw materials
- Introducing improvement programs for poorly performing suppliers

Human Rights & Diversity

Human Rights Management

Based on our human rights management policy, Kukdo Chemical guarantees living wages to all employees and strives to enrich the lives of its employees, various stakeholders, and all members of society.

Human Rights Protection We support and respect labor and human rights protection policies and activities.

Nondiscrimination

We do not discriminate on the basis of race, national origin, age, education, family status, or other conditions.

Child and forced labor

We strictly prohibit child labor and forced labor, and we fully comply with all applicable laws and regulations.

Wages

We operate a fair compensation system that complies with all statutory standards for wages and benefits.

Association

We guarantee freedom of association and collective bargaining rights for all workers.

제보하기



- 01 제보자의 신상정보와 제보 사항은 보호되며, 제보자 본인의 동의 없이 그 신분을 노출하거나 이를 암시하는 어떠한 정보도 공개하지 않습니다 (단, 역본 제보의 경우 내용이 구체적이지 않거나, 사실관계가 불분별할 경우 조사를 진행하지 않을 수 있습니다.)
- 02 제보자는 신고를 이유로 신분상의 불이익이나 차별을 받지 않습니다.
- 03 비윤리 또는 위법행위에 가담하였으나, 본인이 이에 대한 사실을 자진 신고한 경우 상황에 따라 그 행위에 대한 제재를 감면할 수 있습니다.
- 04 사실에 근거하지 않은 비방, 업무와 관련 없는 개인 사생활과 관련된 사항은 처리되지 않을 수 있습니다.



Information Security Framework

Establishing an Information Security Framework

Kukdo Chemical has established policies and systems to protect information and rights and interests in compliance with relevant laws, including the Personal Information Protection Act. All information is securely managed under the supervision of our internal policies and procedures and our Information Protection Officer. We are strengthening our security measures by monitoring information leakage prevention and assessing information security risks.

Policy and Regulations

Information Security Framework

Policy

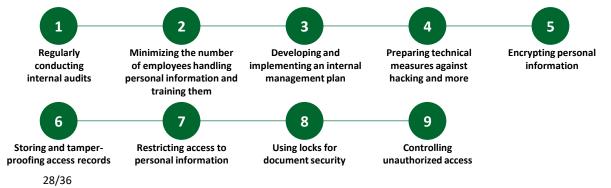
Regulations

- We strictly comply with laws related to the protection of personal information of customers, suppliers, and employees, and do not acquire, provide, or disclose trade secrets of customers and suppliers without authorization.
- We protect and do not infringe on the intellectual property rights of our customers and suppliers.
- Information Asset Management Regulation
- Security Incident Response Regulation
- PC and Mobile Device Security Regulation
- Digitalized Task Management Regulation
- Internal Personal Information
 Management Plan

Privacy Policy

Kukdo Chemical operates a privacy policy that is open to all users and strictly complies with the Personal Information Protection Act. This policy is available on our website and is continuously updated to further enhance its effectiveness.

- Information Protection Officer and Manager
 - Name: Managing Director Cho Hyun-su/Manager Cho Gi-sang
 - Position/affiliation: IDT Division Director/IS Operation Team
- · Risk prevention and assessment procedures for information security



Corporate Social Responsibility

UN Global Compact Activity

We participated in the "Volunteer Day for Rescue Dogs" organized by the UN Global Compact Network Korea and spent the day taking care of rescue dogs with other member companies.







Corporate Social Responsibility

Growing Seedlings to Trees

Kukdo Chemical employees are growing seedlings at home to contribute to reforestation efforts. We join Noeul Park Citizen's Group in their social contribution program, where each employee grows seeds at home for 100 days and sends them back to the forest. We will continue to promote various activities to protect the environment and restore ecosystems.







Corporate Social Responsibility

Community Outreach

With business sites in Busan, Iksan in Jeollabuk-do, and Siheung in Gyeonggi-do, Kukdo Chemical is continuously striving to contribute to the local community and environment through support for the underprivileged and environmental cleanup activities.



Employees at the West Operations participate in cleanup activities organized by the Iksan Corporate Environmental Council, contributing to the preservation of the local environment.



At Central Operations, we held an internal flea market for employees and donated all the proceeds to underprivileged households in the local community through the Jeongwangdong Administrative Welfare Center.

ESG Performance

Governance



Board of Directors Ethical Business Management

Board of Directors and Auditors

Board of Directors and Auditors

As of the 52nd Annual General Meeting of Shareholders in 2024, the Board of Directors consists of nine members, including five inside directors, one nonexecutive director, and three outside directors.

Classification	Name	Name Gender		New/ consecutive term(s)	
Inside director/ standing	Lee Si Chang	Male	3 years	Consecutive (7)	
	Heo Yeon-jin	Male 3 year		Consecutive (4)	
	Jeong Jin-bae	Jeong Jin-bae Male 3 year		New	
	Kim Yong-ho	Male	3 years	New	
	Won Gyeong-up	Male	3 years	Consecutive (1)	
Nonexecutive director/ absentee	Hatano Chihiro	Male	3 years	New	
Outside director	Ryu Yeong-jae	Male	3 years	Consecutive (1)	
	Kim Jong-dae	Male	3 years	Consecutive (1)	
	Lee Hui-suk	Female	3 years New		
Auditor	Lee Hui-in	Male	Standing auditor		

Board independence

Kukdo Chemical appoints directors through a general meeting of shareholders. Director candidates are selected by the Board of Directors, disclosed in the notice convening the shareholders' meeting in accordance with applicable laws, and duly appointed by resolution of the shareholders' meeting.

■ Board Meeting Results (2023)

- Number of board meetings: 10

- Attendance rate (average)

· Inside directors: 100.0%

· Outside directors: 97.5%

Ethical Business Management

Compliance Management

Kukdo Chemical has established the Legal and Compliance Group as a division directly under the CEO to implement the company's compliance policies, including the establishment and enforcement of various standards related training, and fair trade compliance programs. It reports the results of compliance control activities to the Board of Directors to continuously create a fair and transparent corporate culture.

Compliance Management System

Legitimacy and Justice Management Philosophy

 We observe social ethics and morals and implement legal and just management

Core Values for Implementation

 We think and act in accordance with the law and principles, adhering to all disciplines

Implementing Strategy

- Establishing compliance policies and procedures
- Providing regular and ongoing training for all employees
- Having a dedicated division that constantly provides compliance advice
- Operating anonymous reporting channels
- Managing a compliance monitoring system
- Auditing and taking recurrence prevention measures

Implementing Basis

- Establishing an anti-corruption and compliance management system
- Raising compliance awareness among all employees

Compliance Officer

- Name: Kim Seong-gi (Executive Managing Director)
- Position: Head of Legal and Compliance Group
- Career Highlights
 - BA in Law, Korea University
 - Legal Team, listed company under LG Group (16 years)
 - Legal Team, listed company under Lotte Group (14 years)
- Compliance Officer Interview

"Kukdo's management philosophy of legal and compliance is the foundation of our internal control system and the competitive edge that enables us to grow as a sustainable global company. As the company's general compliance officer, I will contribute to rational and transparent company management activities by overseeing and consistently improving all systems necessary for compliance management, including preventing and thoroughly monitoring legal risks. "

ISO 37001/37301



Kukdo Chemical has obtained ISO 37001&37301 certification in order to thoroughly manage compliance issues. It is an objective measure of our compliance policy implementation and our capability to address compliance risks.

[Appendix]

[UN SDGs Index]

UN SDGs	Goals	Page	UN SDGs	Goals	Page
1 NO POWERTY 市本市市市	No poverty	-	10 REQUERES	Reduced inequalities	27
2 HRD HOMER	Zero hunger	-	11 SUSTAINME OTES AND COMMENTES	Sustainable cities and communities	-
3 GOED MEATTH AND WELL BEING:	Good health and well-being	21, 22	12 RESPONSIBLE CONCUMPTION AND PRODUCTION	Responsible consumption and production	5, 6
4 QUALITY DUCATION	Quality Education	8, 12, 23, 24	13 CUMATE ACTION	Climate action	8, 13, 16, 17, 18, 19
5 EDUCE TOWNS	Gender Equality	27	14 UFE ELOWWATER	Life below water	8, 13, 16, 17, 18
6 CILAN WATER AND SANITATION	Clean water and sanitation	8, 13, 16, 17, 18	15 UPLAND	Life on land	8, 13, 16, 17
7 AFFORMALE AND CLEANEAGED	Affordable and clean energy	8, 11, 18	16 PEACE, JUSTICE AND STRENG INSTITUTIONS	Peace, justice and strong institutions	-
8 DECENT WORK AND COMMING CROWTH	Decent work and economic growth	5, 6	17 FASTEREMPS FOTTHE GRAS	Partnership for the goals	10, 25, 26
9 MOSTEY INDIVIDUAL MAD WEATHER STATE OF THE	Industry, Innovation and infrastructure	5, 6, 8			

[Certification_ISO 14001]

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Current lause date: Expiry date: Certificate identity number: 22 July 2024 20 December 2025

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Certificate of Approval

This is to certify that the Management System of:

KUKDO CHEMICAL CO LTD

32 Seogam-ro 13-gli, Iksan-si, Jeonbuk 54588, Republic of Korea

has been approved by LRQA to the following standards:

ISO 14001:2015

Approval number(s): ISO 14001 - 00044511

This certificate is valid only in association with the certificate schedule bearing the same number on which the locations applicable to this approval are listed.

The scope of this approval is applicable to:

Design, Development, Production and Services of Epoxy Resins, Phenol Resins, Polyamide Resins(Epoxy Curing Agents), Polyulea, Polyurea, Polyurethane, Polyamide Imide, Polyimide Resins, Photocurable Resins and System Epoxy Resins.

mto

II-Hyoung Lee

Korea Operations Manager Issued by: LRQA Limited



LRCA Group Limber, in efficies and subsidiaries and their respective officers, employees or agents are, includedly, and collectively, referred to in this clause as LRCAY.

LRCA examines no exponsibility and shall not be false to any person for any loss, derange or expense caused by reference on the information or addition that document or

however, provider unless their person is agreed a contract of the their electric LRCA entiry for the provider of this information or addition and their electric LRCA.

liability is exclusively on the terms and conditions set out in that contract.

Issued by: LPDA Limited, 1 Trinity Park, Bickenhill Lane, Birmingham 837 765, United Kingdom

Page 1 of 2

LRQ/A



Certificate identity number: 10030376

Certificate Schedule

Head Office / IKSAN 180 14001:2016 Production and Services of Epoxy Resins, Phenol 32 Seogam-ro 13-gil, iksan-si, Jeonbuk 54588, Resins, Polyamide Resins(Epoxy Curing Agents), Polyol, Republic of Korea Polyurea, Polyurethane, Polyamide Imide, Polyimide Resins, Photocurable Resins and System Epoxy Resins. 180 14001:2016 64-17 Noksansandan 165-ro Gangseo-gu, Production and Services of Epoxy Resins, Phenoi Resins, Polyamide Resins(Epoxy Curing Agents), Polyol, Polyurea, Polyurethane, Polyamide Imide, Polyimide Busan 46752, Republic of Korea Resins, Photocurable Resins and System Epoxy Resins. SITE 2 / SIHWA 180 14001:2016 Production and Services of Epoxy Resins, Phenoi 15 Gongdan 2-daero, Siheung-si, Gyeonggi 15095, Resins, Polyamide Resins/Epgry Curing Agents), Polyol. Polyurea, Polyurethane, Polyamide Imide, Polyimide Resins, Photocurable Resins and System Epoxy Resins. SITE 3 / BUSAN 2 180 14001:2016 Design, Development, Production and Services of Epoxy 42 Noksansandan 290-ro Gangseo-gu, Busan 46757, Resins, Phenoi Resins, Polyamide Resins(Epoxy Curing Agents), Polyol, Polyurea, Polyurethane, Polyamide Imide, Polyimide Resins, Photocurable Resins and System Epoxy Resins.



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Page 2 of 2

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[Certification_ISO 45001]

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Certificate of Approval

This is to certify that the Management System of:

KUKDO CHEMICAL CO LTD

32 Seogam-ro 13-gil, Iksan-si, Jeonbuk 54588, Republic of Korea

has been approved by LRQA to the following standards:

ISO 45001:2018

Approval number(s): ISO 45001 - 00044501

This certificate is valid only in association with the certificate schedule bearing the same number on which the locations applicable to this approval are listed.

The scope of this approval is applicable to:

Design, Development, Production and Services of Epoxy Resins, Phenol Resins, Polyamide Resins(Epoxy Curing Agents), Polyol, Polyurea, Polyurethane, Polyamide Imide, Polyimide Resins, Photocurable Resins and System Epoxy Resins.

II-Hyoung Lee

Korea Operations Manager Issued by: LRQA Limited

LRIQA Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as LRIQA. Licit A rough Limited, it is shallest and subdisables also their respective officers (e-projuges of agents are, restricted) and receively, reteries to in this cauce as CELEX.

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Page 1 of 2

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Certificate identity number: 10630378

Certificate Schedule

Head Office / IKSAN 32 Seogam-ro 13-gil, Iksan-si, Jeonbuk 54588, Republic of Korea

Production and Services of Epoxy Resins, Phenol Resins, Polyamide Resins(Epoxy Curing Agents), Polyol, Polyurea, Polyurethane, Polyamide Imide, Polyimide Resins, Photocurable Resins and System Epoxy Resins.

SITE 1 / BUSAN 1 ISO 45001:2018 Production and Services of Epoxy Resins, Phenol 64-17 Noksansandan 165-ro Gangseo-gu, Resins, Polyamide Resins(Epoxy Curing Agents), Polyol, Polyurea, Polyurethane, Polyamide Imide, Polyimide Busan 46752, Republic of Korea Resins, Photocurable Resins and System Epoxy Resins.

SITE 3 / BUSAN 2

42 Noksansandan 290-ro Gangseo-gu, Busan 46757, Republic of Korea

Design, Development, Production and Services of Epoxy Resins, Phenol Resins, Polyamide Resins(Epoxy Curing Agents), Polyol, Polyurea, Polyurethane, Polyamide Imide, Polyimide Resins, Photocurable Resins and System Epoxy Resins.

15 Gongdan 2-daero, Siheung-si, Gyeonggi 15095, Resins, Photocurable Resins and System Epoxy Resins.

ISO 45001:2018 Production and Services of Epoxy Resins, Phenol Resins, Polyamide Resins(Epoxy Curing Agents), Polyol, Polyurea, Polyamide Polyamide Imide, Polyimide

LROA Group Limited, its diffilates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as LROA! LROA assumes no responsibility and table to the label to any person for any loss, damage or expense caused by relance on the information or advice in this document or howeverer provided, unless that person has signed a contract with the revenue! LROA entity for the provision of this information or advice and in that case any responsibility or liability is estudying on the terms and controllors set out in that contract.

Page 2 of 2

[Certification_ISO 50001]



Certificate No : REnM0024 Page : 1/2

Certificate of Registration

ENERGY MANAGEMENT SYSTEM

This is to certify that the energy management system of

KUKDO CHEMICAL CO., LTD.

at

- Head Office: #61, Gasan digital 2-ro, Geumcheon-gu, Seoul, Republic of Korea
- iksan Production Site: #32, Seogam-ro 13-gli, iksan-si, Jeollabuk-do, Republic of Korea
- Siftwa Production Site: #15, Gongdan 2-daero, Sifteung-si, Gyeonggi-do, Republic of Korea
- Busan No 1 Production Site: #64-17, Noksansandan 165-ro, Gangseo-gu, Busan, Republic of Korea
- Busan No 2. Production Site: #42, Noksansandan 290-ro, Gangseo-gu, Busan, Republic of Korea
- iksan Logistics Center: #15, Seogam-ro, iksan-si, Jeoliabuk-do, Republic of Korea
- Sihwa Logistics Center: #121, Hyeomnyeok-ro, Siheung-si, Gyeonggi-do, Republic of Korea

Has been found to conform to the Energy Management System Standards:

KS A ISO 50001:2018/ISO 50001:2018

This Certificate is valid for the following product or service ranges:

- Design, Development, Manufacture and Sales of Chemical Materials (Epoxy, Hardener, Polyimide Film)
- 2. Operation of Logistics Center

Issue Date: Dec. 22, 2023

Certification Date: Dec. 22. 2022 Valid Date: Dec. 21. 2026





Authorized B



Korsa Management Registrar 1dong, 125, Ace High Tech City, 9715, Gesongin Songrisungoo-gu, Secul, 01256, Korsa KMR is accredited by the KAB (No. KAB-EN-07)
 Initial certification data: Dec. 27, 2023.



Certificate No : REnM0024 Page : 2/2

Certificate of Registration

ENERGY MANAGEMENT SYSTEM

APPENDIX

Certificate No.: REnM0024
Company Name: KUKDO CHEMICAL CO., LTD.
Address: #61, Gasan digital 2-ro, Geumcheon-gu, Seoul, Republic of Korea
Scope of Certifications 1. Design Development Manufacture and Sales of

Scope of Certification: 1. Design, Development, Manufacture and Sales of Chemical Materials
(Epoxy, Hardener, Polyimide Film)

2. Operation of Logistics Center Assessed Standard: KS A ISO 50001:2018/ISO 50001:2018

Site name Scope of Certification

-iksan Production Site Design, Development and Manufacture of Chemical Materials (Epoxy, Hardener)

-Sihwa Production Site Design, Development and Manufacture of Chemical Materials

(Epoxy, Hardener)

-Busan No 1. Production Site Design, Development and Manufacture of Chemical Materials

(Epoxy, Hardener)

Busan No 2. Production Site 1. Design, Development and Manufacture of Chemical Materials(Epoxy)

Operation of Logistics Center
 Operation of Logistics Center
 Operation of Logistics Center

-Sihwa Logistics Center 1. Design, Development and Manufacture of Chemical Materials

(Polylmide Film)

2. Operation of Logistics Center

Issue Date: Dec. 22, 2023

Certification Date: Dec. 22. 2022 Valid Date: Dec. 21. 2026





Authorized By

E J Hwang

Korea Management Registrar 14ong, 135, Ace High Tech City, 87TS, Gasongin-ro Scongdoungso-gu, Secus, 07236, Korea KMR is accredited by the KAB (No. KABEN-01)
 Initial continuation data: Dec. 22, 2022.

[Certification_ISO 37001&37301]



Certificate No: RAB0220

Certificate of Registration

ANTI-BRIBERY MANAGEMENT SYSTEM

This is to certify that the anti-bribery management system of

KUKDO CHEMICAL CO., LTD.

at

-Head Quarter: #51, Gasan digital 2-ro, Geumcheon-gu, Seoul, Korea -West Operation: #32, Seogam-ro 13-gil, Iksan-si, Jeonbuk-do, Korea -South Operation: #54-17, Noksansandan 165-ro, Gangseo-gu, Busan, Korea -Central Operation: #15, Gongdan 2-daero, Silvemg-si, Gywonggi-do, Korea

Has been found to conform to the Anti-bribery Management System Standards:

KS A ISO 37001:2016 / ISO 37001:2016

This Certificate is valid for the following product or service ranges:

Sales, Manufacturing, R&D of Chemical Materials

Issue Date: Aug. 27, 2024

Valid Date: Aug. 26, 2027 Certification Date: Aug. 27, 2024







Idong 12F Ace High Tech City #775/Gyeongin-ro Yeongdeungpo-gu, Seoul, 07299, Korea T: 82-2-6309-9001 / F: 82-2-6309-9004

- KMR is accredited by the KAB (No. KAB-AC-03)
- Initial certification date: Aug. 27, 2024



Certificate No: RCPM0080

Certificate of Registration

COMPLIANCE MANAGEMENT SYSTEM

This is to certify that the compliance management system of

KUKDO CHEMICAL CO., LTD.

Head office: #61, Gasan digital 2-ro, Geumcheon-gu, Seoul, Korea West operation: #32, Seogam-ro 13-gil, Iksan-si, Jeonbuk-do, Korea South operation: #64-17, Noksansandan 165-ro, Gangseo-gu, Busan, Korea Central operation: #15, Gongdan 2-daero, Siheung-si, Gyeonggi-do, Korea

Has been found to conform to the COMPLIANCE MANAGEMENT SYSTEM Standards:

KS A ISO 37301:2021 / ISO 37301:2021

This Certificate is valid for the following product or service ranges:

Sales, manufactuing, R&D of chemical material (epoxy)

Issue Date: Feb. 16, 2024

Certification Date: Feb. 16. 2024

Valid Date: Jun. 14, 2026





Korea Management Registrar Idong,12F,Ace High Tech City #775,Gyeongin-ro Yeongdeungpo-gu, Seoul, 07299, Korea T: 82-2-6309-9001 / F: 82-2-6309-9004

- = KMR is accredited by the KAB (No. KAB-CC-01)
- Initial certification date: Jun. 15, 2023

[Certification_ISCC Plus]



Headquater



South Operation

[Certification_ISCC Plus]



West Operation



Central Operation

[Financial Performance]

Statement of financial position

Unit :KRW Million

Unit :KRW Mil					
	2021	2022	2023		
Current assets	696,398	616,698	533,692		
Inventories	228,590	240,669	152,983		
Accounts receivable	354,313	259,717	263,098		
Other investment assets	92,089	104,789	95,880		
Other current assets	7,411	9,651	10,309		
Cash and cash equivalents	13,995	1,871	11,423		
Non-current assets	514,207	685,717	818,658		
Property, plant and equipment	217,983	382,930	401,056		
Intangible assets, net	10,173	12,249	19,208		
Investment properties, net	25,598	25,299	13,207		
Long-term and other trade receivables	7,041	11,958	30,802		
Investment of joint venture	4,500	4,500	4,500		
Investment of subsidiaries	176,775	202,885	240,533		
Other investment assets	58,862	43,490	107,049		
Other non-current assets	13,275	-	-		
Right-of-use assets	-	2,406	2,304		
Total assets	1,210,605	1,302,414	1,352,350		
Current liabilities	392,072	373,052	445,666		
Non-current liabilities	89,642	121,917	77,054		
Total liabilities	481,714	494,969	522,721		
Total equity	728,892	807,446	829,629		

Income Statement

Unit :KRW Million

	2021	2022	2023
Sales	1,487,453	1,377,202	1,062,354
Cost of sales	1,127,038	1,094,928	901,112
SG&A	139,558	155,185	115,631
Operating profit	220,857	127,090	45,611
Other income	5,008	4,214	10,342
Other expenses	5,981	8,066	9,625
Finance income	18,574	41,888	31,666
Finance costs	15,691	38,724	35,148
Profit before tax	222,766	126,402	42,845
Income tax expense	56,326	27,278	3,418
Net profit	166,440	99,124	39,427

Distribution of economic value

Unit :KRW Million

-	구분	2021	2022	2023
Share	Dividend	19,009	11,887	10,009
holders	Interest expense	3,817	8,252	14,735
Employees	Salaries	51,608	58,845	57,308
	Employee benefits	5,920	9,625	9,169
	Severance benefits	4,964	4,356	5,272
	Training expenses	127	298	632
	Sub total	62,619	73,124	72,381
Government & public institutions	Corporate tax and other taxes	8,748	75,278	13,933

[Non-financial performance]

Employment

Male 521 708 72	Content				2021	2022	2023
Female F		Total n	umbe	er of employees	581	787	811
Female 60 79 50 50 57 730	D. Candar			Male	521	708	718
Executives & above 48 55 57 58	By Gender			Female	60	79	93
Executives & above				Full-time	531	730	739
New employee hire	By employ	туре		Contract	50	57	72
Senior assistants & below 391 423 448				Executives & above	48	55	51
New employee hire	By Position	n		Managers & above	142	309	318
Male				Senior assistants & below	391	423	442
Female 18 23 23 24	New emplo	yee hire			148	295	108
Female				Male	130	272	88
Male 8.8 Y 8.9 Y 8.9 Female 4.5 Y 4.3 Y 4.4 Employee Turnover 88 100 36 Female 74 96 36 Female 14 4 Female Proportion of female employees among full-time workers 11% 11% 11 Diversity Diversity 2% 2% 15 Female Remain 15 Female Remain 15 Female Remain 16 Female Remain 17 Female Remain 18	By Gender			Female	18	23	20
Female	Length of service				8.4 Y	8.4 Y	8.4 Y
Female	By Gender			Male	8.8 Y	8.9 Y	8.9 Y
No. of female leaders (Manager & above)				Female	4.5 Y	4.3 Y	4.4 Y
No. of female leaders (Manager & above)	Employee Turnover				88	100	83
Female No. of female leaders (Manager & above) Proportion of female employees among full-time workers Proportion of female employees among contract workers 2% 2% 15				Male	74	96	77
Female Proportion of female employees among full-time workers Proportion of female employees among contract workers 2% 2% 15	By Gender			Female	14	4	6
Female Proportion of female employees among full-time workers Proportion of female employees among contract workers 2% 2% 15							
Female Proportion of female employees among full-time workers 11% 11% 11 Diversity Proportion of female employees among contract workers 2% 2% 15					10	36	17
Diversity among contract workers 2% 2% 15	Diversity __	Female	Pr	oportion of female employees	11%	11%	11%
Persons of disabilities 2 3			Pr		2%	2%	15%
				Persons of disabilities	2	3	11
Minority Recipients of patriots & 7 7 7 7 7 9 7 7 7 7 7 7 7 7 7 7 7 7 7					7	7	5
Foreigners - 2		0.00,00			-	2	2

Welfare & Education/Training

		2021	2022	2023	
	No. of em	100%	100%	99%	
Wages & Equal Salar		Average wages for workers (women's wages as a percentage of men's wages) *Managers & above	100%	100%	100%
Benefits	Welfare	Percentage of welfare cost to sales	0.16%	0.24%	0.23%
	Perce	ntage of employees receiving medical benefits	100%	100%	100%
	Total hours of employee education & training		7,236H	12,559H	16,919H
	&	Hours of education & training per person	12H	16H	21H
Education &		Expenditures in education/ training per person (KRW 10,000)	26	37	40
Training	Percentage of employees having received equality of gender training		100%	100%	100%
		100%	100%	100%	

■ Safety & Health, Labor management

	(Content	2021	20	22	2023
	No. of ISO 45001-certified business sites (West, South)		2	2	2	2
Safety		o. of KOSHA-MS-certified business sites (Central)	1	1	1	1
&		Content	2019			2023
Health	DCAA	West operation	M+	M+		S
Labor Management	PSM Rating	South operation	S		S	
	Natilig	Central operation	al operation M+		M-	
	No. of labor-	14	14	4	14	
		Diversity/Discrimination /Workplace bullying	0	O)	1
	No. of processed cases	Heal & Safety	2	2)	2
		Education & Carrier	3	1		4
		Working condition	14	24	4	20
		Wages & Welfare	31	24	4	26
		Personnel management system	6	14	4	13



[Non-financial performance]

Environmental performance

	Content	Unit	2022	2023
	Scope 1		7,574	11,084
GHG	Scope 2	tCO₂eq	36,269	44,494
	Sub total		43,843	55,575
	Steam Ton		366,872	368,358
Energy	LNG	m³	2,267,235	1,987,383
	Electricity	kWh	69,489,784	70,104,699
	Waterworks		19,120	57,725
Water	Industrial water	m³	2,672,866	3,127,598
	Underground water		295,692	158,698
	Sub total		2,987,678	3,344,021

Truncate the decimal points when adding Scope 1 & 2 $\,$

Content			2022	2023
	BOD		65,882	60,407
	T-N		27,051	55,187
Water Pollutants	T-P	kg	5,158	5,818
	SS		120,106	49,691
	Sub total		218,197	171,105
Air Pollutants	SOx		432	3,713
	NOx	1	6,295	9,005
	Dust	kg	1,519	1,455
	Sub total		8,245	14,173
Waste	Total amount of waste treated	Ton	10,046	11,428
	Designated waste	Ton	4,028	5,278

[GHG Emissions Verification Opinion]



Assurance Statement

This Assurance Statement has been prepared for Kukdo Chemical Co., Ltd.

Terms of Engagement

LRQA was commissioned by Kukdo Chemical Co., Ltd. (Kukdo Chemical) to provide independent assurance on its Greenhouse Gas (GHG) Inventory Report for the calendar year 2023 (the report) against "the guidelines on emission reporting and certification under the GHG emissions trading system" and the monitoring plan for the calendar year 2023 using "the verification guidelines for GHG emissions trading system".

The report relates to direct GHG emissions and energy indirect GHG emissions.

Management Responsibility

LRQA's responsibility is only to Kukdo Chemical. LRQA disclaims any liability or responsibility to others as explained in the end footnote. The management of Kukdo Chemical is responsible for preparing the report and for maintaining effective internal controls over all the data and information within the report. Ultimately, the report has been approved by, and remains the responsibility of Kukdo Chemical.

LRQA's Approach

LRQA's assurance engagement has been carried out in accordance with our verification procedure using "the verification guidelines for GHG emissions trading system" to reasonable level of assurance.

The following tasks were undertaken as part of the evidence gathering process for this assurance engagement:

- Visiting sites and auditing management system to control the data and records regarding GHG emissions and energy uses
- Interviewing the relevant persons responsible for managing and maintaining data and associated records
- . Reviewing the historical data and information back to source for the calendar year 2023.

Level of Assurance & Materiality

The opinion expressed in this Assurance Statement has been formed on the basis of a reasonable level of assurance, and at the materiality of the professional judgement of the verifier and at the materiality level of 5%.

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LRQA's Opinion

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LRQA Reference: SEO6047623

Scope of GHG emissions

Direct GHG Emissions

Total GHG Emissions

Table 1. Summary of GHG emissions

Energy Indirect GHG Emissions

II-Hyoung Lee

GHG emissions data in the Table 1 is materially correct.

2nd Floor, T Tower, 30, Sowol-ro 2-gil, Jung-gu, Seoul, Republic of Korea

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Dated: 21 March 2024

LRQA

Unit: tCO₂eq

Year 2023

11,275.219

44,938.026

56,210

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Based on LRQA's approach, we believe that the report is prepared in accordance with "the guidelines on emission reporting and certification under the GHG emissions trading system" and the monitoring plan for the calendar year 2023 using "the verification guidelines for GHG emissions trading system" and the

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age 1 of 2

** This verification opinion is a document issued after the verification service of LRQA, and the emission finally confirmed through the Ministry of Environment is 55,575 tCO₂, which is slightly different.

As a company and as a community, Kukdo seeks a future of sustainable growth where we contribute to local areas, society, nation, and humanity.

