



CONTENTS

Leading & Leaping

COMPANY PROFILE

- 06 Company Overview
- 07 Statement of Continued Support
- 08 The UN Global Compact's Ten Principles
- 09 Sustainability Management System
- 10 Stakeholder Communication

SDGs Chemical

UNGC COMMUNICATION ON PROGRESS

- 12 Human Rights
- 16 Labor
- 18 Environment
- 22 Anti-Corruption





With its pioneering spirit, dedication, and integrity, Hanwha Chemical has set many milestones as a leader in the Korean chemical industry through market-leading general-purpose plastics and a range of inorganic chemical products.

Based on the market leadership in Korea, Hanwha Chemical is emerging as a leader in the global chemical industry by securing unrivaled creativity and competitiveness, leading paradigm shifts, and fulfilling its social responsibilities.

Leaping



Leading

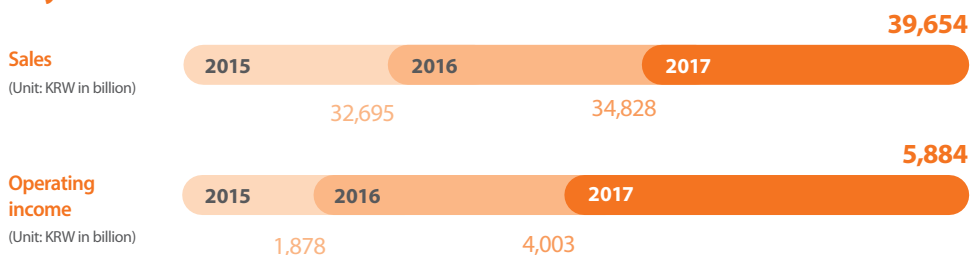
Company Overview

Since its founding in 1965, Hanwha Chemical has led the Korean petrochemical industry through market-leading general-purpose plastics and a variety of inorganic chemical products. As the first producer of PVC goods in Korea, Hanwha Chemical succeeded in producing a full array of primary petrochemical products, including LDPE (Low Density Polyethylene), LLDPE (Linear Low Density Polyethylene), and CA (caustic soda/chlorine). Based on its leadership in the petrochemical market, Hanwha Chemical is now achieving prominence in the polysilicon and Toluene Diisocyanate (TDI) fields, leaping forward as a leader in the chemical industry with its unrivaled creativity and competitiveness.

Company Information

Company Name	Hanwha Chemical Corporation
Date Founded	August 1965
No. of Employees	2,378 (As of December 2017)
CEO	Chang-Bum Kim
Major Businesses	PO, PVC, CA, TDI, and Polysilicon
Head Office	Hanwha Building, 86 Cheonggyecheon-ro, Jung-gu, Seoul, Korea

Key Economic Performance



Products at a Glance

Hanwha Chemical offer top-of-the-line products through R&D activities and market analysis.

PO

- LDPE
- EVA
- LLDPE
- HDPE
- W&C Compounds

PVC

- PVC Resin
- Copolymer
- Terpolymer
- Paste Resin
- Plasticizers
- OA
- PA/MA
- CPVC
- ECO-DEHCH

CA

- Caustic Soda(NaOH)
- Chlorine(Cl₂)
- EDC
- VCM
- ECH
- Hydrochloric Acid(HCL)
- HYPO

TDI

- TDIs
- TDI Derivatives
- TM
- TDA

Polysilicon

- Polysilicon

Statement of Continued Support

Hanwha Chemical devises strategies for sustainability management that focus on value creation and social contribution with its new vision statement, "Be Creative and Competitive toward a Chemical Leader."

Hanwha Chemical became a member of the United Nations Global Compact in January 2012 for the purpose of growing together with its stakeholders including customers, shareholders, partner companies, employees, and local communities. Hanwha Chemical honors and practice the UNGC's ten principles of human rights, labor standards, the environment, and anticorruption.

This Communication On Progress includes data for the period from July 1, 2017 to June 30, 2018, related to the company's activities and performance in compliance with the ten principles of UNGC. Through active engagement and communication, the company will make every efforts to create sustainable values for all stakeholder groups.

Thank you.

Chang-Bum Kim

CEO
Hanwha Chemical



UN Global Compact (UNGC)

Hanwha Chemical became a member of the United Nations Global Compact in January 2012. Hanwha Chemical honors and practice the UNGC's ten principles of human rights, labor standards, the environment, and anti-corruption as a responsible corporate citizen.



The UN Global Compact's Ten Principles

1. Human Rights

Principle 1 Businesses should support and respect the protection of internationally proclaimed human rights

Principle 2 make sure that they are not complicit in human rights abuses.

2. Labour Standards

Principle 3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

Principle 4 the elimination of all forms of forced and compulsory labour

Principle 5 the effective abolition of child labour

Principle 6 the elimination of discrimination in respect of employment and occupation.

3. Environment

Principle 7 Businesses should support a precautionary approach to environmental challenges;

Principle 8 undertake initiatives to promote greater environmental responsibility

Principle 9 encourage the development and diffusion of environmentally friendly technologies.

4. Anti-Corruption

Principle 10 Businesses should work against corruption in all its forms, including extortion and bribery.

Sustainability Management System



Declaration for Sustainable Growth

As a forward-looking, socially responsible company, Hanwha Chemical requires all employees to observe six key principles in their daily operations. These principles reflect the Company's business objectives and management philosophy:

- We conduct all business to ensure social and environmental sustainability and benefit;
- We respect regional characteristics and contribute to local development;
- We address the wishes of stakeholders and improve in areas where they raise concern;
- We meet our duty to law and ethical standards sincerely and fairly;
- We respect the importance of environmental management and comply with environmental, safety, and health guidelines;
- We share with communities and contribute through social activities with pride and responsibility.

Key Directions of Sustainability Management

Hanwha Chemical conducts sustainability management with a view toward economic, social, and environmental goals, while also reflecting the diversity of opinions from stakeholders.

Classification	Directions	Organization
Environmental Management	<ul style="list-style-type: none"> • Diversify the business portfolio through eco-friendly and future-oriented approaches • Continuously improve the stability and eco-friendliness of products • Foster competitiveness in renewable energy technologies • Provide environmental, safety, and health management systems 	<ul style="list-style-type: none"> • R&D Center • Environment Safety Team
Talent Management	<ul style="list-style-type: none"> • Implement fair, systematic HR development • Adopt systems to encourage work-life balance • Empower female employees 	<ul style="list-style-type: none"> • HR Planning Team • HR Development Team
Volunteer Management	<ul style="list-style-type: none"> • Set clear objectives for social outreach activities • Conduct social contribution programs to engage local communities • Promote employees' voluntary and active participation • Continue in social contribution activities customized for beneficiaries 	<ul style="list-style-type: none"> • General Affairs Team
Partnership Management	<ul style="list-style-type: none"> • Grow the Company's business with customers • Establish partnership based on growth and trust • Provide education and other supports for partner companies 	<ul style="list-style-type: none"> • Partnership Development Team
Integrity Management	<ul style="list-style-type: none"> • Comply with laws and market regulations • Conduct periodical education programs and appoint fair-trade compliance officers • Develop ethical guidelines and whistle-blowing system 	<ul style="list-style-type: none"> • CR Planning Team • Legal Affairs Team

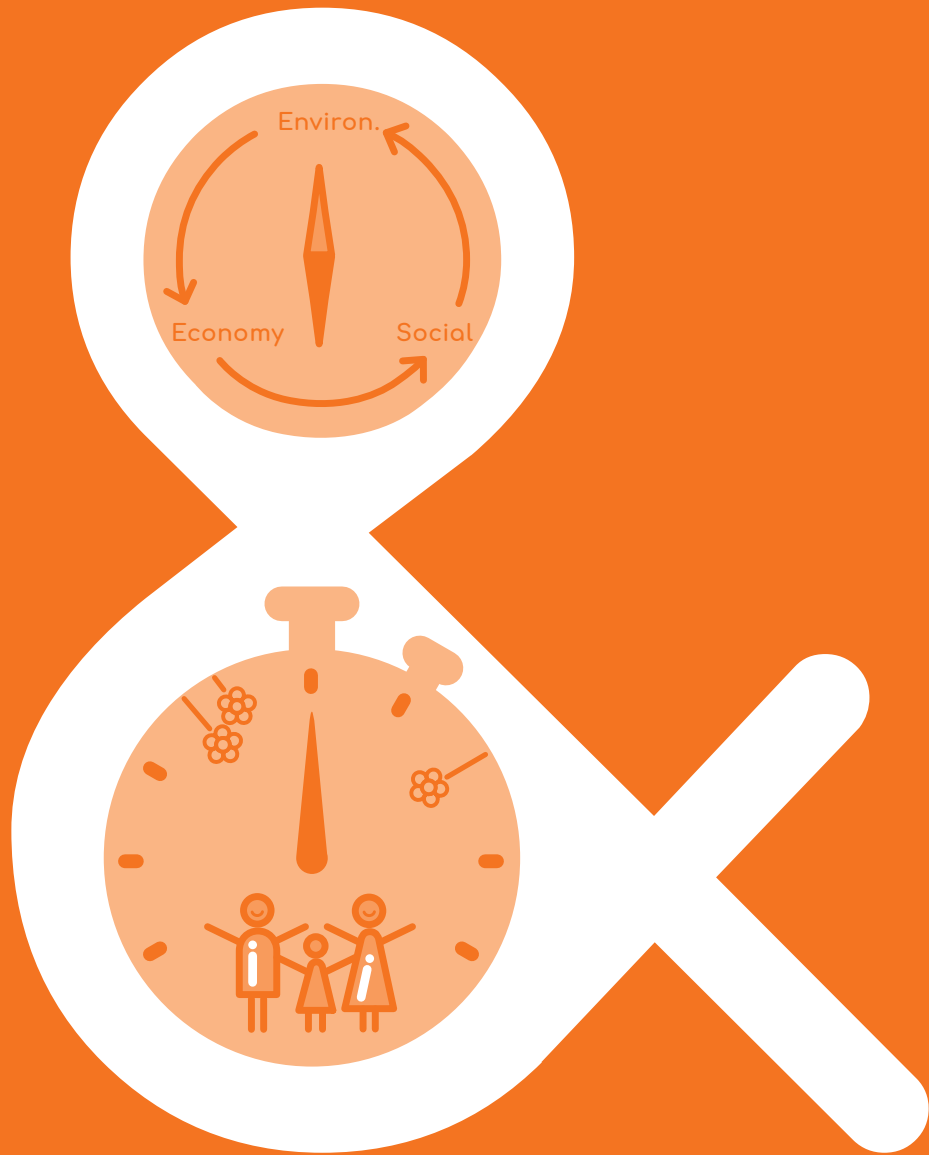
Stakeholder Communication

Hanwha Chemical develops close cooperative relationships with stakeholders, including customers, shareholders, suppliers, non-profit organizations and government agencies, and regularly provides them with relevant information through its website and social media. The Company provides the communication channels listed below in order to reflect the opinions of stakeholders on sustainable development.

Key Communication Channels



SDGs



Chemical

Hanwha Chemical transforms itself to secure sustainable growth in all of its economic, social, and environmental performance, thus charting a path toward its utmost goal of becoming a future-oriented technology company that enhances the quality of life for everyone.

Even with its accomplishments as a leader in the Korean market, Hanwha Chemical is not resting, but restarting a new chapter as a world leader in every way, including humanitarian activities and eco-friendliness.

Human Rights

Hanwha Chemical respects for human dignity and prioritizes human rights in its workplaces. The Company guarantees benefits and welfare programs of its employees, as well as contributing to the well-being of local communities by providing various social contribution activities.

The Ideal Individual for Hanwha Chemical

Hanwha Chemical has grown based on credit and loyalty – the credit that allows it to build trustworthiness and the loyalty that enables it to make a relationship last in any situation. The Company fosters talented individuals with its core values in mind, including a pioneering spirit, dedication, and integrity.

Ideal Individuals

Individuals who possess a high degree of pioneering spirit, dedication, and integrity

Core Values

Pioneering Spirit

Dedication

Integrity

Individuals who seek changes, innovation, and solutions to problems, and who think out of the box to do so

- Individuals who actively develop themselves to become top-tier experts in their fields
- Individuals who discern new methods and opportunities with open-minds and creativity
- Individuals who set and achieve goals with indomitable spirit and high self-confidence

Individuals who value long-lasting relationships with the Company, customers, and colleagues, and who endeavor to achieve greater goals

- Individuals who put top priority on shared goals with others
- Individuals who keep their pledges to customers and consistently create customer value
- Individuals who cooperate with colleagues and promote teamwork

Individuals who behave fairly in observance of principles and with a sense of self-esteem

- Individuals who abide by basic principles with an ability to resist the temptation of immediate reward
- Individuals who treat others fairly according to their ability and performance to avoid conflicts of interest

Welfare and Benefits

Hanwha Chemical provides a variety of welfare programs that place great value on the personal lives of employees. In one example, the Company offers a personal leave program called Refresh, which provides all employees with vacations lasting ten or fewer days—time that they can use for self-development.

The Company contributes to the well-being of employees by providing an in-house cafeteria, medical expenses for employees and their families, stipends of congratulations and condolence, and commuter bus services. In addition, employee clubs receive support, and the company provides an online library, welfare points, family days, invitation events for parents, and a variety of sports events.



Happy Workplace

- Commuter bus services at head office, Yeosu and Ulsan Plants
- Auto maintenance costs supports
- In-house cafeteria
- Employee clubs supports
- Day-off and employee gifts on foundation day (October 9) and Labor Day (May 1)



Healthy Workplace

- Medical expenses for employees and their families
- Operation of medical service rooms at plants
- Periodical health exams for employees and their spouses
- Various sports facilities
- Various sports events



Self-development and Vacations

- Degree programs including overseas MBAs, executive MBAs, and PhD programs
- Support for participation in overseas conferences
- Education expenses for other foreign language courses
- Financial supports for in-house and external job training and leadership programs
- Online library for employees
- Rewards for exemplary employees
- Rewards for employees with long services (10, 20 and 30 years) and support for overseas travels
- Rewards for outstanding employees by job function each year
- 5-day work week and "Refresh" vacations (up to ten days)
- Use of Hanwha Resorts across the country at member prices



Housing and Children's Education

- Company housing at workplaces and dormitories for singles
- Supports for moving costs
- Provision of interest-free housing loans
- Congratulatory money for children's admission into schools and education expenses
- Leaves and stipend for congratulation and condolence
- Maternity protection programs including leaves and financial supports
- Work hours reduction during pregnancy
- Operation of daycare centers
- Flexible working hours during child-rearing



Strategies of Social Contribution

Hanwha Chemical's social contribution strategies assist people in creating their sustainable values today and tomorrow. Its CSR extends into fields of social welfare, culture and arts patronage, education, and other public charity work through cooperation with outside professional organizations, especially for future generations and the less privileged.

VISION

Building a Happy Tomorrow Together

Hanwha Chemical creates a happy tomorrow with everyone to go far together

MISSION

Happy lives
shared by
all employees

Community growth
through sharing
and caring

Bright and healthy
future through
environmental value
creation

Directions

Realizing social contribution
motto through social
contribution activities

Fostering expertise in social
contribution activities and
developing socially responsible
products and services

Fulfilling local needs
through regional friendly
volunteer programs

Social Welfare for the Underprivileged

Hanwha Chemical implements a variety of social contribution programs to improve the welfare of the underprivileged. For example, the Company assists in vocational training for the disabled. The Company also provides the first birthday party for abandoned infants, delivers free lunch for the elderly living alone, and teaches Korean language for multicultural families, enabling them learn Korean culture. Furthermore, the Company conducts soccer classes for the children of low-income families.





Education for Future Leaders

Since 2013, Hanwha Chemical has conducted the Energy Class for Tomorrow, a volunteer program that provides an opportunity for employees to help elementary students in communities near its plants. The program consists of interesting lectures for children and offers hands-on experience in difficult science topics. In the program, Company researchers, engineers, and other volunteers visit schools and deliver lectures on energy issues, renewable energy sources, and solar cells. The outcome for the children is to assemble and run a race with solar-power cars. The Company's objective is to focus on children who are marginalized in science education, including the children of multicultural and underprivileged families. It also continuously sponsors the Bugil Foundation, the most prestigious private education organization in Cheonan.

Yeosu: Fire-free Village

In cooperation with the Yeosu city fire station, the Yeosu Plant supplies basic fire-fighting equipment such as fire extinguishers and alarm-type fire detectors to marginalized areas where access such equipment is difficult. Volunteers from the plant visit and instructs residents on neighboring islands in the use of basic fire-fighting equipment and other fire-extinguishing activities. During these visits, the plant also provides other volunteer services, including haircuts and repair of home appliances; they deliver household necessities that are often in short supply, and they offer special events for the islanders. The plant continues to build fire safety nets through further cooperation with public agencies, NGOs, and regional communities, as part of its social contribution activities for local residents.

Ulsan: Memorial Day Event for War Veterans and Patriots

Every year, Ulsan Plant organizes a Memorial Day event for people of national merit residing in Ulsan City, including disabled veterans, their widows, and other war-bereaved, all in cooperation with the Ministry of Patriots and Veterans Affairs and the Social Welfare Center of the Nam-gu district of Ulsan. During the event, musical groups present a volunteer concert, souvenirs are donated, and a greeting ceremony is offered, all with the participation of the Hanwha Volunteer Corps, an employee organization at the plant whose members include veterans of national service and their children.

Daejeon: Creating Ecological Habitats

As a manufacturing enterprise, Daejeon R&D Center fulfills its environmental responsibility through a program to create ecological habitats. Through collaboration with regional NGOs, the center also installs signs for biological habitats at a public park in Daejeon City.



Labor

Hanwha Chemical seeks cooperative labor-management relationships and mutually beneficial growth between management and employees by sharing corporate vision together. Through active feedback systems and programs, the Company also addresses employee voices for their equal opportunities and fair compensation.

A Fair and Transparent Personnel System

Hanwha Chemical promotes employee engagement and satisfaction through fair performance-based assessment and compensation.

Hanwha Chemical evaluates and compensates individuals based on their competencies and performance. In addition, the Company encourages employee participation in establishing and evaluating objectives by conducting discussion sessions, in turn ensuring clear and fair evaluation processes. One-to-one feedback sessions are also conducted with team leaders to help employees understand evaluation results. The Company conducts a special promotion program that allows selected employees to be promoted within two years of that selection, thereby encouraging young talent to develop their careers with a frontier spirit and greater confidence.

Labor-Management Partnership

Hanwha Chemical seeks cooperative labor-management relationships and mutually beneficial growth between management and employees. The Company assists labor unions in understanding the current state of operations through informal CEO meetings, business presentations, and other communication channels. The Company also makes every effort to embed safety management in its business processes by appointing honorary safety inspectors along with an Industrial Safety and Health Committee, and through participation in international expositions of industrial equipment.

Labor-management Cooperation Activities in 2017

Dates	Activities	Region	Dates	Activities	Region
January 3	Safety awareness event	Ulsan	August 2	Camp for employees' children	Yeosu
January 7	New-year mountain climbing event	Yeosu	October 20	Harmony day	Yeosu
April 22	Company athletic meet	Yeosu	November	Communication education	Yeosu
April~July	Cheering event for shift workers	Ulsan	December	Kimchi-making event	Ulsan
May 26	Employees' parents invitation event	Yeosu	November-December	Cheering event for shift workers	Yeosu



Diversity and Antidiscrimination

Hanwha Chemical complies with the conventions of the International Labour Organization and all domestic labor laws. The Company prohibits child labor and forced labor, and it does not tolerate discrimination based on gender, religion, political affiliation, social status, nationality, or ethnicity, in hiring, assignments, promotions, compensation, or education. The Company also builds mutual respect and works against human rights violations in the workplace through inter-cultural training for both executives and employees.

A Desirable Workplace for Mothers

Hanwha Chemical promotes gender equality and the empowerment of women at workplaces through a variety of programs. During pregnancy, the Company guarantees periodic prenatal screenings, and allows mothers to adjust their office hours during pregnancy and the first stages of parenting. The Company provides maternity protection programs that exceed legal requirements. It provides family days to help new mothers maintain a balance between work and family. The Company recognizes employees who are giving birth with a gift set called a "Mom's Package," which includes guides offering advice on protecting mothers and their newborns as well as supplies that will assist mothers through their pregnancies. One month before new mothers return to work from their maternity leaves, the Company holds counseling sessions organized by trained personnel managers. These sessions help mothers relieve some of the psychological anxiety that may result from long-term maternity leave and address issues of resettlement at work.



Prevention of Sexual Harassment

Hanwha Chemical conducts sexual harassment prevention sessions for all employees at least twice a year and appoints at least one sexual harassment prevention counselor for each workplace, with stringent penalties for sexual misconduct.



Environment

Pursuing its “2020 Long-term Master Plan for Low-carbon, Green Growth”, Hanwha Chemical proactively copes with the impact of climate change. The Company also endeavors to preserve local natural sources including air, water, and soil for regional communities. In particular, the Company adheres to stricter guidelines for the treatment of hazardous chemicals, especially for substances restricted domestically and overseas.

Air Pollution Protection

* The Telemetry System (TMS) is an automatic, around-the-clock air pollution treatment system that allows the Company to measure levels in the concentration of air pollutants and to keep related data at an air-pollution control center. Yeosu Plant operates four TMSs.

* The LDAR (Leak Detection And Repair) system is designed to periodically measure chemicals generated from non-point pollutant sources, including valves, flanges, and pumps at production facilities. In the event of out-of-range emissions, the system repairs emitting facilities. The Yeosu Plant currently operates an LDAR system for 6 production teams and more than 110,000 points.

Air Pollution Reduced through Pollutant Sources Management

The Company's Yeosu Plant produces hydrochloric acid through the thermal cracking of chlorinated organic wastes. During the scrubbing process in its production of hydrochloric acid, the plant periodically employs TMS* to monitor the concentration of pollutants. The plant also uses barcode tags and implements LDAR* systems to track suspicious non-point sources of pollutants that may generate volatile organic compounds (VOCs) and hazardous chemicals. Through this periodic monitoring, the plant maintains its emissions of air pollutants at 30% below legal maximums.

Control of Air Pollutant Dispersion

Yeosu Plant has signed a cooperation agreement with Jeollanamdo Provincial Government to reduce air pollutants at Gwangyang Bay area. The plant has also installed an equipment to remove fume generated during the tank truck distribution of PVC and CA products, and changed loading system from top to bottom. In addition, the plant upgraded chemical sampling equipments of chlorine, VCM, EDC and other hazardous air pollutants to maintain sealed. Particularly, the sealing system of compressors and pumps are replaced to double type to reduce the amount of air pollutant dispersion.

Water Conservation

Wastewater Treatment

To reduce risk factors caused from the violation of environmental regulations, all wastewater generated at the Ulsan Plant is treated primarily at on-site contamination prevention facilities; it is then transported to sewage treatment facilities within the industrial complexes where it is located. Ulsan Plant 1 transports and reprocesses wastewater at the Yongam Wastewater Treatment Plant, which has been operated by the government since February 2011.

Wastewater Concentration Controlled by Water Analysis Laboratory

Yeosu Plant operates an on-site water analysis laboratory to check wastewater parameters such as pH, COD, and SS in a daily basis for each process. Additionally, 11 major hazardous wastewater substances are analyzed by GC-MS* equipments that allow the plant to measure and maintain concentration levels of the wastewater discharges at 30% below those required by the regulation. CCTVs was also installed at waterway to manage non-point pollutant sources inside the plant. The plant monitors water quality with pH meters, and sends detected hazardous substances to wastewater treatment facilities through sumps, preventing the leak of the hazardous substances off the plant.

* GC-MS: Gas Chromatography - Mass Spectrometer



Waste Treatment and Soil Protection

Due Diligence with Outsourced Recycling Contractors

To maximize waste recycling, Hanwha Chemical continuously improves its production processes and develops new business relationships with outsourced recycling providers. Every year, the Company conducts due diligence with its contractors to fulfill legal requirements for waste treatment.

Periodic Assessment of Soil Contamination

Hanwha Chemical prevents soil contamination through thorough periodic assessments of its manufacturing facilities. The Company identifies BTEX (benzene, toluene, ethylbenzene and xylene) and TPH (total petroleum hydrocarbons) from the soil surrounding storage tanks at designated sampling points, pursuant to Article 13 of the Soil Environment Conservation Act. These soil contamination assessments and management include neighboring regional communities and company housing facilities.

Management of Chemicals

Enhanced Response Plans for Chemical Incidents

Through thorough assessment of each process at treatment facilities, Hanwha Chemical provides plans for the mitigation of external impact from chemical incidents. The Company uses assessment results to improve scenario-based training and contingency plans, and it conducts emergency drills on a regular basis.

Stricter Chemical Management Guidelines

Managers at the Yeosu Plant conduct weekly self-assessments for each process in the treatment of hazardous chemicals. The plant also supplies protective equipment for every individual to use during treatment of hazardous chemicals, and it deploys resources for disaster prevention near high-risk equipment and facilities. In addition, the plant periodically rates facilities and continually improves its erosion control measures, thus augmenting the safety of its chemical treatment equipment. The plant also holds careful checkups through non-destructive testing, including visual inspections. In line with the Company's maintenance plans, old facilities which may be susceptible to damage and leakage are replaced as they reach the end of their expected life spans.

Streamlining New Chemicals Information Gathering System

Yeosu Plant has built database for all chemicals it uses, produces, and sells. The plant has also streamlined an integrated chemical product lifecycle management system which allows the plant easy access to information on hazardous products, manage a Material Safety Data Sheet (MSDS), and maintain information on materials in the supply chain.

To preview new materials prior to their use, the plant convenes a Reactive Chemicals Subcommittee to deliberate on new materials and to approve the use of these new materials. Only materials that are approved by the subcommittee are used in the plant. During procurement, suppliers must provide full information about chemical substances, and plant administrators must preview and verify these procedures before approving final purchase, thus strictly managing the overall purchase process.

Substances Restricted Domestically and Overseas

To comply with both domestic and overseas environmental regulations, including REACH*, RoHS*, GHS*, and K-REACH, Hanwha Chemical provides an integrated chemical product lifecycle management system to prevent health risks to employees and minimize environmental impact.

* REACH is the EU's new chemical management program. It includes the registration, evaluation, authorization, and restriction of chemicals according to amount and toxic level.

* RoHS (Restriction of Hazardous Substances) regulates six hazardous materials used in the electronics material industry, including Pb, Hg, and Cd.

* GHS (Global Harmonized System) is a globally accepted labeling system for chemicals according to toxic level.



Strategies for Climate Change Response

To proactively deal with global climate change and participate in emissions trading schemes, Hanwha Chemical has introduced a company-level organization dedicated to climate change response. This organization preemptively identifies risk and opportunity factors and devises strategies to address management issues related to climate change. It also shares information on these climate change issues throughout the Company, thereby encouraging employee participation and promoting awareness. As part of the Group's task force for emissions trading, the organization also assists in the enactment and execution of its Group-wide guidelines.

Mid-to-long-term Vision and Target

Vision To become a Green Global Chemical Leader through green, sustainable growth

Target To participate effectively in emissions trading schemes through low-carbon systems and technologies

Strategies and Major Tasks

Strategies	Major Tasks
Low-carbon infrastructure	<ul style="list-style-type: none"> Manage greenhouse gas (GHG) reduction objectives on a long-term basis Implement strategies for emissions trading schemes Develop a special organization to address low-carbon issues
GHG reduction activities	<ul style="list-style-type: none"> Implement GHG reduction tasks Attract external funding for GHG reduction Lay infrastructure for GHG management
External partnerships	<ul style="list-style-type: none"> Enhance marketing activities promoting low-carbon policies Implement external carbon offset projects Prepare for government policies



Analysis of Eco-friendliness

* Phthalates are chemical additives used in the softening of plastics

* TVOC stands for total volatile organic compounds

* FA stands for failure analysis, for Aldehyde in particular

* Volatile Organic Compounds (VOC) cause photochemical smog by generating oxidizing materials such as ozone through photochemical reaction in the air.

The eco-friendliness of products is one of the most significant issues in sustainability management. Hanwha Chemical manages product quality through analysis of restricted hazardous substances (RoHS) and total volatile organic compounds (TVOC). In addition, Hanwha Chemical R&D Center has obtained certification from the Korea Laboratory Accreditation Scheme (KOLAS) for its advanced hazardous materials analysis system. Analyses and assessments include the following:

Classification	Details
Analysis of Hazardous Substances	<ul style="list-style-type: none"> Restricted hazardous substances (RoHS), including Pb, Cd, Cr, Hg, Brominated flame retardants (BFRs) Nine phthalates* Other materials restricted upon request, such as heavy metals, in addition to those designated in the RoHS
TVOC Analysis and Evaluation	<ul style="list-style-type: none"> TVOC*, FA* and individual VOC* analysis, including 20L Small Chamber, Headspace, TD, Tedlar bags, HPLC, GC, GC, and MSD, for raw materials and finished products TVOC discharged from and FA for raw materials and finished products for construction and materials used in automotive interiors

Sustainable Technology Development

Hanwha Chemical R&D Center is laying the foundation for sustainable growth through exploration of new, future-oriented business ventures, including eco-friendly energy and proprietary technologies and products, in turn achieving our utmost goal of becoming a creative, competitive leader in the global chemical industry.



Eco-friendly Plasticizers(ECO-DEHCH)



Current Status

As the world's awareness of environmental protection rises, the monitoring and regulation of chemical substances has become more stringent than ever. The market for PVC plasticizers* is also undergoing increased interest in eco-friendly materials. Along with this market change, the development of high-quality perfect non-phthalate plasticizers is urgently needed. In addition to general-purpose plasticizers, the development of specialty plasticizers that fulfill the needs of more segmented markets is indispensable in meeting current trends in the PVC market.

Our Solution

In response to the growth of eco-friendly markets, Hanwha Chemical is developing eco-friendly perfect non-phthalate plasticizers. Following toxicity tests, it has completed verification and registration of these products as eco-friendly materials. The Company begins the commercial production of perfect non-phthalate plasticizers. To produce high-quality general-purpose and specialty plasticizers, the Company is also developing manufacturing processes and assessments of the stability and processability of these products.

* A plasticizer is an organic substance added to plastics or paints for improving processability at high temperature.

Paste Resin for Eco-Friendly Wallpaper



Current Status

Eco-friendly additives with minimal amounts of VOCs are used in the production of eco-friendly wallpaper. However, low-VOC additives are known to cause some production problems, including lower melt speeds and higher viscosity.

Our Solution

To resolve the problems of lower melt speeds and higher viscosity, Hanwha Chemical is developing a high-performance paste resin (PSR) that features a high melt speed and lower viscosity. Recently, the Company's prototype undergoing screening through wallpaper manufacturers.

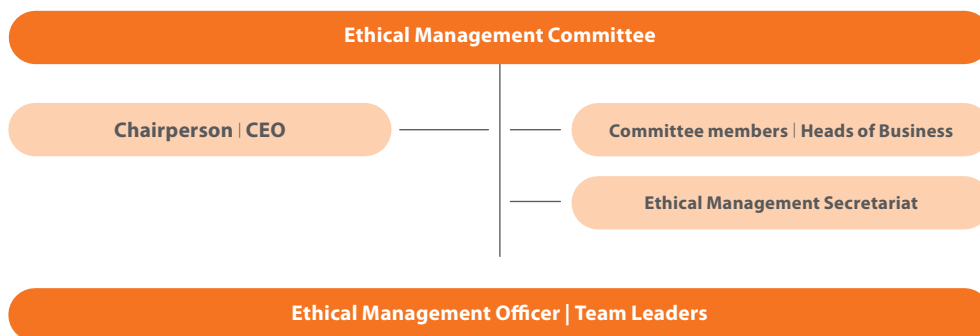
Anti-Corruption

To fulfill the Company's social responsibilities, Hanwha Chemical's employees are required identify values and act according to ethical management standards during their daily operations. The Company considers integrity to be one of the core values in its business performance. Under the Ethics Charter promulgated in April 2003, the Company prevents risk and misconduct that may arise from low ethical standards among employees and partner companies, and it reinforces its standards through a special organization dedicated to monitoring ethical management.

Ethical Management Organizations

The Ethical Management Committee is chaired by the CEO of the Company. The Ethical Management Secretariat oversees the company-wide ethical management, conducts education programs, and sends periodic reminders to inculcate ethical values and management principles among employees.

Organizations of Ethical Management



Code of Conduct for Ethical Management

- 01 We shall always respect customer opinions and strive to earn their trust through high credibility and loyalty.
- 02 We shall comply with local laws where business activities are conducted, respecting commercial practices and pursuing fair competition.
- 03 We shall maintain mutual trust and cooperative relationships with partner companies through fair, transparent transactions.
- 04 We shall not use our dominant position for misconduct against suppliers, and we shall not receive money or valuables, entertainment or conveniences from them.
- 05 We shall not provide or disclose internal or customer information outside the Company.
- 06 We shall not use Company supplies or expenses for personal purposes.
- 07 We shall prohibit loans, guarantees, and presents between employees.
- 08 We shall not discriminate based on academic background, gender, religion, family relationship, place of birth, disability, nationality, or ethnicity, and we shall respect all colleagues to make the Company a better place to work.
- 09 We shall actively participate in social contribution activities.
- 10 We shall endeavor to develop eco-friendly products and services, and we shall prevent accidents through stringent safety inspections and management.

Key Ethical Management Activities

With the aim of protecting consumer rights while adhering to market regulations, Hanwha Chemical implements practical ethical management guidelines to allow its stakeholders to identify values and act according to ethical management standards. On every local holiday, Hanwha Chemical also posts ethical management notices on digital bulletin boards reminders to employees.



Ethical Management Guidelines

Hanwha Chemical implements practical ethical management guidelines. These guidelines prohibit money and gifts from outside the Company, sexual harassment and misconduct, and undue assertion of superior position. Violators are required to submit a report to the executives in charge.



Ethical Management Notices

On every local holiday, Hanwha Chemical posts ethical management notices on digital bulletin boards reminders to employees. The Company also encourages its suppliers to practice fair, transparent trade.



Suggestion and Whistle-blowing System

All internal and external stakeholders of the Company may report corruption and unfair practices according to the code of ethics and code of conduct to the ethical management secretariat through phone calls, fax, e-mail, or the web. The ethical management secretariat guarantees protection of information on reporters and whistleblowers, promoting fair, rational work procedures.



Guidelines for Advertisement and Sponsorship

Hanwha Chemical prohibits improper marketing communication, but executes legal advertising and sponsorship under its principle-based management. The Company complies with advertisement laws and regulations and has no record of violations.

Protection of Customer Information

Data Breach Prevention

The Company's information security team supervises all security practices for information throughout the Company to the level required in all guidelines, especially for customer information. The information security secretariat and those in charge of information security at each plant conduct educational sessions to reinforce awareness of security among employees, and they encourage employees not only within the Company, but also at its suppliers to comply with regulations on information security.



Classification

Details

Technological Information Security

- Access control and firewalls to prevent hacking and data breaches
- Vaccine programs to stop malware
- Security programs to prevent leaks of personal information

Managerial Information Security

- Minimal collection of personal information
- Privacy agreements for collection and use of personal information
- Disposal of personal information after use
- Periodic employee education on information security