

# TOP PARTNER IN 3E

Electronic  
Energy  
Environment

Dongwoo Fine-Chem is working continuously to take the lead in the fields of electronics, energy and the environment, through innovations that are focused on technology, organization and cost structuring.

WE ARE THE ONLY TOTAL SOLUTION  
PROVIDER IN KOREA IN THE IT FILED

Dongwoo Fine-Chem has developed state-of-the-art material technology that is applicable to ultrafine (nano-dimension) processes, making it a powerful enterprise in the truest sense in this digital era. The company's successful domestic commercialization of chemicals for semiconductor and LCD as well as LCD materials, for which Korean manufacturers once had to depend primarily on imports, exemplifies its market presence in the field, and is giving Korea a significant boost as a world-leading IT power. We are also expanding business in regards to color filters, touch sensors, flexible display, and development and production of various new materials.

Determined never to be left in the past, the Company has a firm goal of realizing the highest level of customer satisfaction by enlarging the scope of its original technologies through continuous R&D, and concentrating on the development of advanced materials.

**As such, Dongwoo Fine-Chem, a total provider in the field of IT materials, is dreaming of opening the future with its three key focuses: technology, customers and the environment.**



WE ARE AT THE CENTER OF  
A NEW GROWTH ENGINE!

The center of all future industries is energy.  
Dongwoo Fine-Chem is endeavoring to develop the functional materials required in renewable power generation for a green future.

**Dongwoo Fine-Chem, lighting the new world with reusable energy, will be a reliable partner in Korea's energy industry.**

# Energy

# WE DREAM OF A GREEN EARTH AND A PURE LIFE!

Dongwoo Fine-Chem is making footprints along the path toward opening a sustainable future and a clean environment. Dongwoo Fine-Chem is putting the chemical recycling business into practice by accelerating R&D focused on environment-friendly materials and green technology, with a view to minimizing the impact on the ecosystem.

Our efforts to become a greener IT company that considers the Earth and the environment will never cease.

# FAITH & TRUST AND OUR BRIGHT FUTURE



In 1991, Dongwoo Fine-Chem, the top industrial partner in domestic information electronic materials, localized high purity chemicals for the semiconductor for the first time in Korean history based on Sumitomo Chemical Co. technology. We have actively responded to changing customer demand and the industry environment by developing our own technology, contributing Korea to become a top semiconductor powerhouse. Moreover, we entered the display material market in 2002 and since then we have taken the root as one of the largest total solution makers in the information electronic material industry.

Despite the rapid-changing business operating environment, we have continued sustained growth, achieving 2 trillion KRW in sales by 2010 and became a key player in the global network business led by Sumitomo Chemical Co., our parent company. This achievement was made possible as a result of our endless efforts to obtain customers' trust and move further with passion as well as active responses to challenges under our slogan: "Shared growth with customers based on trust".

Dongwoo Fine-Chem, which will celebrate its upcoming 30th anniversary, now prepares for a new step forward making the most use of experiences and knowledge without any complacency.

We will strive to develop overseas markets as well as continue a sustainable growth in the domestic market by securing a new growth engine for the next generation through stronger technical competitiveness of existing businesses and better cooperation with Sumitomo Chemical Co. In addition, we will do our best to establish a second foothold through a preemptive response to the shifting paradigm driven by a more dynamic display industry.

Dongwoo Fine-Chem will take a social responsibility through a sustainable business model while observing global standards. Furthermore, we will prioritize on environmental safety under a zero-tolerance principle and share more responsibility for society through compliance observance.

Dongwoo Fine-Chem executives and employees practice the key business value: Trust, Enthusiasm, Challenge and High satisfaction. This is part of our best efforts to transform as a top partner in areas such as electronics, energy and environment. To achieve our vision, we will create a new value. We sincerely hope that you keep watching and supporting Dongwoo Fine-Chem with trust and hope for the future.

Thank you.

President & CEO of Dongwoo Fine-Chem

Hwang Inwoo

# COMPANY & PLANTS



Dongwoo Fine-Chem, a sister company to the world-renowned Sumitomo Chemical, is growing to be a global leader in the field of IT and electronics materials with our leading-edge technology.

We promise to be the most reliable partner in these fields, by equipping ourselves with differentiated quality assurance and services through strong and systematic investments in our facilities and R&D.

# A COMPANY THAT LEADS THE DEVELOPMENT OF NEW TECHNOLOGIES

A Company Leading the Development of  
New Technologies



Sinheung Factory



## About DONGWOO'S Technology

Dongwoo Fine-Chem has grown with its customers, bringing a variety of new products into the marketplace ranging from process chemicals to display materials, through dedicated R&D. Among these new products are high-purity, high-performance functional chemicals that can be applied to super micro processes, including wide view film and high-resolution, super-slim display materials, the quality of which has been proven through export around the world.

### The first in Korea to develop specialized IT & electronics materials, making the Company unchallengeable in the field

Since its foundation in 1991, Dongwoo Fine-Chem has played a leading role in the industry by being the first to successfully commercialize a series of high purity chemicals. In addition, the Company entered into the field of TFT-LCD materials, eventually becoming a core company in the global network of Sumitomo Chemical. Central to its product line that it was the first to commercialize in Korea are the high-purity chemicals essential for manufacturing TFT-LCD, etchants having superb performance properties, photo resists, color films and polarizing films. Dongwoo Fine-Chem will further strengthen its presence in the fields of next-generation display materials, energy and the environment.

### Successful development of color resist

Dongwoo Fine-Chem has not only further developed the color resist production technology that was transferred from Sumitomo Chemical, but is also undertaking the development of a high-contrast, high-brightness resist. In addition, it is spurring itself to develop compatible display materials, in line with the next-generation display trend.

### Development of new technology for semiconductor cleaning

Dongwoo has recently introduced high technology to the cleaning process, which is the stage of semiconductor production in which impurities are removed, an epochal achievement in Dongwoo's history, through a joint development with semiconductor equipment builders under the sponsorship of the Ministry of Commerce, Industry and Energy. This result has been achieved jointly by Dongwoo Fine-Chem and semiconductor machinery manufacturers who received support from the research teams of leading universities in Korea as well as the Ministry of Commerce, Industry and Energy. The new technology has been proven to offer energy savings of more than 60% compared to the conventional wet type of cleaning technology.

### Polarizing Film from Dongwoo Fine-Chem, an Outstanding Supplier for Leading LCD Panel Companies Both in Korea and Overseas

Dongwoo Fine-Chem supplies small, medium and large polarizing film products. We currently have elongation technology that allows us to control the contrast ratio of LCD TVs, transmission technology to improve brightness and phase difference technology to accommodate the various LCD modes required by our customers. We are also accelerating the development of new products such as adhesives, surface treatment film and next generation display responding film.

### Dongwoo Fine-Chem Touch Sensor— World Class Technologies and Top Market Share

The touch sensors produced by Dongwoo Fine-Chem are proudly known for having the best technology and quality, and the company has the highest market share in the world as a foreign manufacturer. Dongwoo Fine-Chem, with the biggest mass-production line in the world, supplies the high-definition, multi-touch sensors used in smart phones and tablet PCs through state-of-the-art facilities. We are also responding actively to supply the main materials for next generation displays (film type) through proactive research, development and investment to respond to rapid changes in the market.

# A GLOBAL LEADER IN THE FIELD OF INFORMATION & ELECTRONIC MATERIALS

A Global Leader in the Field of Information & Electronic Materials



View of Aehime factory, Sumitomo Chemical

Sumitomo Chemical, which holds 100% ownership of Dongwoo Fine-Chem, is a world-renowned company that has been active in all fields of the chemical industry since its foundation in 1913. Sumitomo Chemical, with 5 major business areas (information, electronics and chemicals, energy and functional materials, health and agriculture-related businesses, and pharmaceutical and petrochemical businesses) defines itself by entrepreneurial spirit, striving to enrich human life and contribute to solving social problems by providing useful technology and products. The multinational company currently has a global branch network in the US, China, UK, France, Australia, etc., and exports its various chemical products to more than 100 countries in the world.

## About SUMITOMO CHEMICAL

### Business sectors covering every corner of chemical industry

**IT-related Chemicals Sector** • Based on fundamental technology that has been developed over the long-term, as related to industrial chemicals, organic synthesis, polymer materials and metal materials, Sumitomo Chemical has been providing various materials and chemicals for semiconductors and displays, which are essential for IT-related products.

**Energy & Functional Material Division** • Sumitomo Chemical's Energy & Functional Materials Sector contributes to conserving natural resources by providing wide range of functional chemicals such as aluminum which is used in energy-saving products, high-performance copolymer additives from aluminum, rubber chemicals, purification of emission gas, automotive emission gas filter enhancing fuel efficiency and synthetic rubber for low fuel consumption tires.

**Health and agriculture business division** • A stable supply of food is essential for the development and prosperity of humankind. Sumitomo Chemical manufactures and sells pesticides, fertilizers and feed additives as well as household insecticides to contribute to the stable supply of agricultural products, increased production of food to respond to global population growth, prevention of epidemics and realization of sanitary and healthy life. The pesticides provided by Sumitomo Chemical are used in more than 100 countries all over the world, and the company is also developing new types of agricultural chemicals such as plant growth regulators. Moreover, Sumitomo Chemical has been contributing to the improvement of the living environment of humankind, making efforts to improve the development and sale of household insecticides, chemicals for disinfection, etc.

**Pharmaceutical business division** • Sumitomo Chemical's pharmaceutical business began with the first production of synthetic drugs in Japan based on high-level organic synthetic technology. Currently, the company conducts business with two axes: one is Dainippon Sumitomo Pharma Co., Ltd., focusing on pharmaceuticals, and the other is Nihon Medi-Physics, focusing on diagnostic drugs. The company is also focusing on research and development for cancer-related pharmaceuticals by acquiring Boston-Bio Medical, an American company focused on cancer-related medicine research and development. Also, in the diagnostic field, the company is conducting research and development while continuing manufacturing and sales of SPECT test kits (which are used for image diagnosis of cerebrovascular disorders, cognitive disorders, cardiac diseases and malignant tumors) and PET test kits (useful for early diagnosis of malignant tumors). Furthermore, the company is supplying pain relievers for cancer-related bone metastasis in the therapy field.

**Petrochemicals & Plastics Sector** • Sumitomo is now producing and selling a variety of petrochemical products, from organic chemicals like propylene oxide and styrene monomer to synthetic resins like polyethylene and polypropylene, including synthetic rubber. In addition, highly-functional resins like polymer alloy are also being developed to meet client needs, in addition to leading-edge applied resin processing technologies for foam injection molding and other applications. Sumitomo acquired its exclusive technology by constructing a global supply network based on its foreign production sites in Singapore and North America, while successfully building and operating the petrochemical complex equipped with the world's largest integrated refining facility through a partnership with Aramco, a Saudi Arabian oil-refining company.



Headquarters of Sumitomo Chemical in Tokyo

# CHALLENGE THE WORLD

Power of Technology to Change the World

The existing original technology of Sumitomo, as well as its capability for prior art technology on core materials, acts as an initiative for Dongwoo Fine-Chem to extend its reach to foreign countries. Dongwoo Fine-Chem has made Korea into a leading country for technology by transferring technology and supplying chemical and display materials all over China and Vietnam.



# INVESTMENT FOR THE DEVELOPMENT OF IT TECHNOLOGY

Bold investments for the future



Dongwoo Fine-Chem is continuously investing in facilities to keep up with the growth of the current market. It is also expanding its proactive technology development and investments to secure a new growth engine. We will strive to unearth and nurture high value-added material technology so as to not only contribute to the growth of the information electronics material industry but also solidify our position as one of the main material companies in this field.

## Investment in facilities due to the expansion of the semiconductor chemical market

We are maintaining our dominant position as an information and electronics material specialist, growing with our customers by strengthening our market competitiveness and providing stable supplies by investing in facilities both in Korea and overseas to meet increasing demands for semiconductor chemicals.

## Aggressive investments to preoccupy the Flexible Display materials market

Flexible Displays, which once seemed like a pipe dream, are finding uses in our everyday lives. Dongwoo Fine-Chem is making aggressive R&D investments through developing various materials as displays to dominate the market.



# RESEARCH & DEVELOPMENT

Technological innovation through continuous investment to R&D

Our 220 highly-qualified researchers are conducting various studies at the fundamental technology institute and the INFRA center. Dongwoo Fine-Chem dominates in the information and electronics material market with its fast, precision technology.



### Fundamental technology institute

The fundamental technology institute, opened in 2017, has established itself as the center of fundamental technology development through core material development for semiconductors and displays.

Recently, the institute established itself as a total information and electronics material solution through the development of advanced technology for next generation displays. It is also strengthening its future technological competitiveness by developing touch sensors, flexible materials, etc.

#### ● Status of R&D in Each Sector

Elementary sensor technology	R&D for various elementary technology related to sensors, such as touch control, digitization, fingerprinting, healthcare, etc.
Semiconductor materials	Development of functional organic materials for semiconductors and next generation inorganic materials for semiconductors (cleaners, etchants)
Elementary display technology	Development of advanced, color PR-related technology for commercialization Development of advanced technology for black materials Development of advanced technology for new light-emitting colors and related materials
New business areas	Search and incubation for next generation technology in the information and electronics field

### INFRA Center

The INFRA Center is contributing to the development and production of high-quality and high-precision products through the development of analytic technology as well as new processes and methods.

#### ● Status of R&D in Each Sector

Analytic technology	Research and analysis support (organic/inorganic, optics and element-related foreign substance analysis, etc.) Analytic method/equipment development, display material characteristics analysis KORAS certified
Development of new processes and methods	Search for optimum process conditions in laboratories and pilots Unearth and propose advanced conditions for mass production lines Establish production infrastructure

# PLANTS

## Growth Engine for Dongwoo Fine-Chem

Dongwoo was able to achieve its current high level of competitiveness thanks to the expertise secured over its many years of operating the Pyeongtaek Factory, Sinheung Factory and Samki Factory, along with its continuous technological innovations.

### Pyeongtaek Factory

The factory, located on the Poseung National Industrial Complex (Pyeongtaek, Gyeonggi-do), acts as a central axis for realizing the Company's new business strategies. The factory is producing the world's best high-tech products for display by meeting a wide spectrum of customer requirements under its solid quality administration system and strict environmental safety requirements. In particular, the TPM (Total Productive Maintenance) system aims at creating more profits backed by the 6-sigma quality administrative movement, which urges the Company to become a super-prime global company that is a step ahead of the competition.

#### Main products

producing retardation film, color filter, touch sensor, color resist, high-purity chemicals

### Sinheung Factory

Sinheung Factory, built to accommodate and support the growth of Dongwoo Fine-Chem, is directed toward the growth of customer satisfaction and quality-oriented principles. The factory completely controls the emission of pollutants by introducing the newest high-tech facility with a fully-automatic control system. Moreover, based on its expertise in analyzing super-micro volumes at the nation's highest level of technology, it does its utmost to offer perfect-quality products by carrying out the quality warranty system over all its product lines.

#### Main products

high-purity chemicals, etchants, functional cleaners, photo resist, color resist

### Samki Factory

Dongwoo Fine-Chem Samki Plant completed its phase 1 manufacturing plant in 2013, on a 39,000m<sup>2</sup> plot in the 3rd general industrial complex of Iksan. The plant produces electrodes of Li-ion secondary cells for electronic vehicles, ESS (Energy storage system) and IT products including smart phones and laptops; and produces high-purity alumina for coating for separation.

#### Main products

high-purity alumina



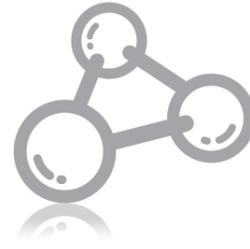
# PRODUCT INFORMATION



Continuously pursuing technological innovations, Dongwoo Fine-Chem stands at the core of Korea's IT industry. Armed with original technology in the areas of color filter and polarizing film, essential materials for LCD, high-purity high-tech chemicals for process, touch sensor and materials for solar cell, the Company is opening a better future.

# Process chemicals

Dongwoo Fine-Chem has successfully developed process chemicals with a uniquely high level of quality, thanks to its expertise in the area of ultra-low level analysis and its state-of-the-art equipment.



## Chemicals for Semiconductor

### Photo resist

This is a photo-sensitive material for light exposure process that helps us form micro circuit patterns when UV light is used in the semiconductor process to adjust the sensitivity when transcribing the circuits on to the wafer. Dongwoo Fine-Chem produces and supplies the resists that are used to produce DRAM, Flash Memory, and Devices that demand high resolution in the Nano-level and compatible with Metal, Implant, and Critical Layers. There are the Novolak-type G&I-Line Resist for each target device and the KrF or ArF Resist to make the minimum line width of semiconductors even narrower.

### Process chemical

High-purity chemicals whose excellent quality has been proven in the relevant industry are available in various items to fit each customer's specific demands.

### Functional Cleaning Solution

This is the chemical that removes pollutants on the surface of semiconductor wafer. The contamination of surface in the semiconductor manufacture process directly affects the device's reliability and yield, so it is critical to remove the organic matters, metal debris, and particles with a functional cleansing solution. Dongwoo Fine-Chem develops and produces Removers, Cleaners, and Etchants that are effective chemical cleansing solutions for semiconductors.

## Chemicals for FPD

### Etchant

The purpose of Etchant is chemical etching for patterning metal wires, which is a component of TFT Array. It should not damage Substrate, Photo Resist, or other layers and it is important to control the Etch Rate and Taper Angle for micro patterning and to improve layering. We have secured Etchant properties that ensure the etching uniformity of large-sized substrates and improve the percent margin and productivity in the manufacture process.

### Rework Stripper

This is the chemical material that removes the color resist and organic materials piled on top of the TFT layer in the LCD process so we can reuse the TFT layer. It removes the color resist and organic materials fast without causing corrosion for the metal materials and inorganic insulation of the TFT layer and without affecting the following photo process.

### Color resist

Color resist used in color filters, which is composed of the three colors of red, green and blue (RGB), is a organic polymer capable of realizing full color. Dongwoo Fine-Chem produces a high-quality color resist that offers high contrast, high permeability, high reliability and high strength.

### Stripper

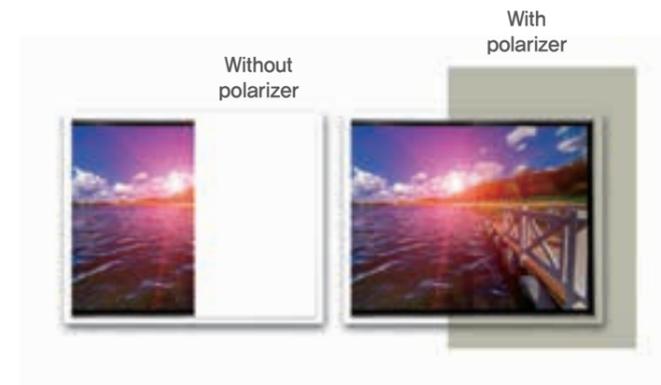
This is the chemical that removes residual Photo Resist on the light exposure process. It quickly removes the residual Photo Resist with high dissolution of Photo Resist and prevents the remaining of residues and corrosion of metal wires after cleaning.

# Polarizing Film

We provide polaroid films, one of the core materials of various displays, for the essential devices of modern life such as LCD and OLED TVs, monitors, laptop computers, navigation systems, and Smartphones.

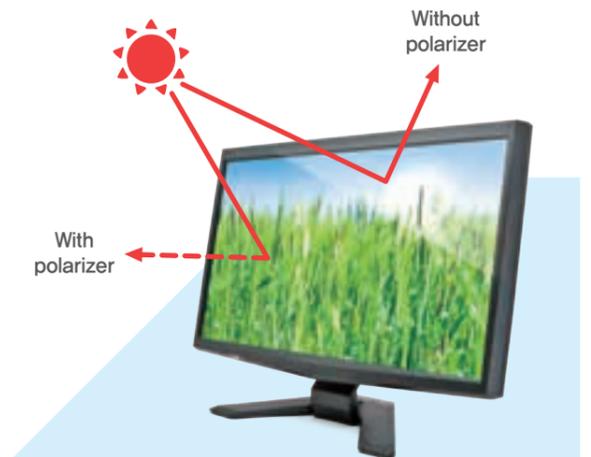


## Polaroid Films for LCD



<b>Use</b>	TV, Monitor, PID Note PC, Tablet, Mobile, Navi HD, FHD, UHD Cover Glass Less
<b>Technology</b>	Water-resistant (acrylic, UV adhesives) Low Shrinkage High Permeability (44%) Super High Definition (UHD) Super Low Reflection (0.1%) Super Hardness (8H)

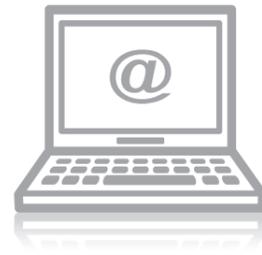
## Polaroid Films for OLED



<b>Use</b>	OLED TV OLED Mobile Auto Bended, Foldable, Flexible
<b>Technology</b>	Real Black Reflective Colors High Permeability (45%) Super-thin (Coating Polarizer, Phase Difference) Deforming Embedded Touch Sensor Heat-resistant (95°C)

# Color Filter

Color Filter is the key material that displays the colors on TFT-LCD. Dongwoo Fine-Chem's color filter uses Photo Resist to create high-resolution patterns on glass.



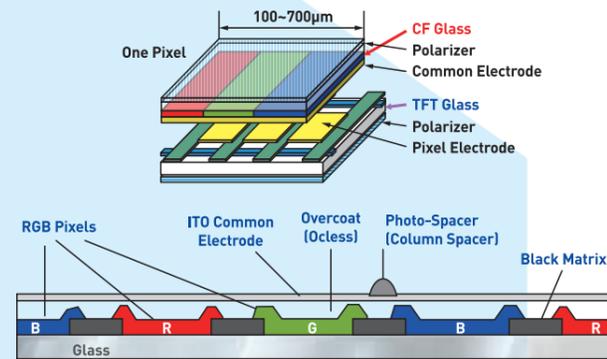
## Development and production status

Dongwoo Fine-Chem's color filter boasts the best production technology and quality. Dongwoo Fine-Chem has the world's largest single line for outsourcing for the 5th generation. Incomparable with any competitor, Dongwoo Fine-Chem independently produces Photo Resist (BM, BGR, CS) necessary for the color filter with unmatched Spinless Coating Technology. Using 1,100 x 1,250mm and 1,100 x 1,300mm (15.6-inch, 18-cell) glass substrates, we are producing various color filters for a wide range of devices from 2.2-inch mobile devices to 27-inch monitors.

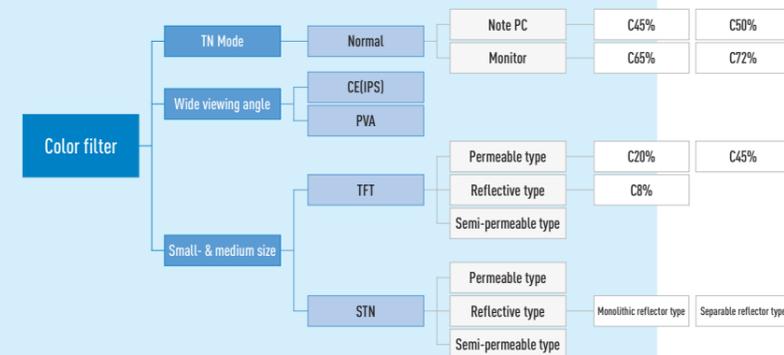
## Compositional elements in color filter

Color Filter (C/F) substrates consist of the Black Matrix that separates and blocks light between the color-displaying C/F Pattern and R,G,B Cell, the common electrode (ITO) to apply voltage to the liquid cell, and the Common Spacer that keeps a certain interval to TFT.

## Classification of color filter



## Sectional view of color filter



# Touch sensor

Dongwoo Fine-Chem is leading the display industry with a focus on emotional touches with broad applications and technological excellence. Dongwoo Fine-Chem's touch sensor has met customer needs through the most optimized process.



## Touch Sensor

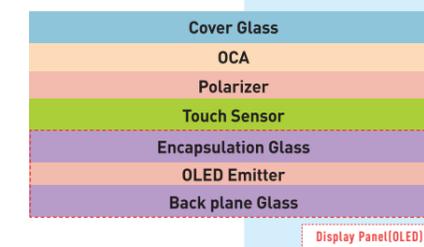
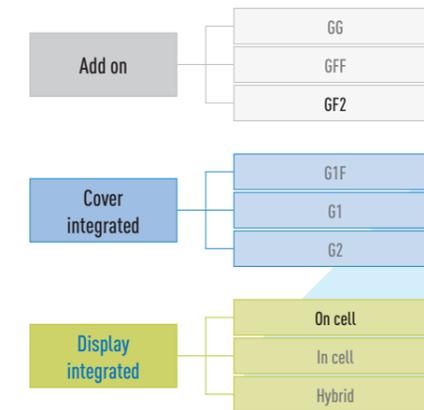
Dongwoo Fine-Chem produces multi-touch and highly durable capacitance touch sensor. The capacitance touch sensor senses small changes to capacitance when touching the surface to calculate the touch position and is a great type of touch sensor widely used for mobile products.

Dongwoo Fine-Chem is providing customers with the best touch sensor products through exceptional technology, specialized materials, and strict quality control.

## The Future of Touch Sensors

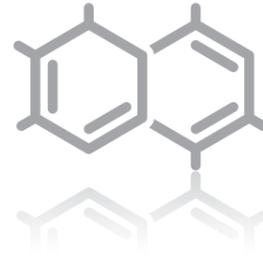
Dongwoo Fine-Chem is constantly developing high-quality touch sensors using thin glass for slimmer display and micro pattern technology. We are also developing processes and materials to apply various systems suitable for flexible displays to satisfy customer needs. We will continue to pioneer the technological trends for leadership in the touch sensor industry.

## Capacitance Touch Sensor



## High-purity alumina

High-purity alumina, which is being produced at Samki Plant, is one of the innovative technologies owned by Sumitomo Chemical. High-purity alumina is used for electronic vehicles, plug-in hybrid vehicles, electrode and separator coatings of Li-ion secondary cells for portable and ESS (Energy Storage System), translucent tubes for lamps at expressways and various ceramic fillers.



### Characteristics of high-purity alumina

The high-purity alumina produced at Samki Plant has a purity above 4N (99.99% or higher), and white powder with the average particle diameter of 1 micrometer. The consistent powder has significantly less huge particles and conducive materials, enabling a coated layer within cells to provide a high insulation effect. In addition, while there is a possibility of ignition when an abnormal short circuit occurs in cells, the high-purity alumina coating between the anode and the cathode serves as a heat resistant layer, controlling the energy that causes this ignition.

### Environmental characteristics of high-purity alumina

High-purity alumina is a product containing no harmful chemicals or prohibited materials.

### Sales and customer support for high-purity alumina

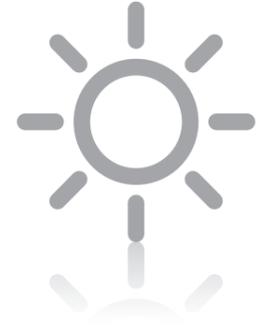
Samgi Factory produces and sells high-purity alumina. Also, technical support for customers is jointly provided by Samgi Factory and Sumitomo Chemical.

### Development of high-purity alumina of various grades

High-purity alumina of various grades that meets the demands of existing and expected new customers is jointly developed with the Basic Chemicals Research Laboratory of Sumitomo Chemical.

## Advanced Materials

We have expanded into the secondary cell material business, which has high future potential, thereby diversifying our portfolio.



### Separator for lithium ion secondary cells (Aramid Coating Separator)

A separator should be located between an anode (+) and cathode (-), and its main role as a product is to maintain insulation.

If an anode and cathode come into contact, combustion may occur, so a separator is essential for securing the safety of lithium ion secondary cells.

The main feature of our separator is its heat-resisting layers, formed by polyolefine base material and aramid resin (which has a high heat-resistance) combined together to enhance the heat-resistance of the separator. This contributes to improving the safety of lithium ion batteries.

The manufacturing process consists of film processing technology, synthetic technology for aramid resin, thin film coating technology and in-line defect test technology. We produce our separators using hybrid chemistry technology, which puts the slogan of Sumitomo Chemical into practice.

# SUSTAINABILITY MANAGEMENT



In numerous ways, Dongwoo Fine-Chem puts its corporate philosophy of fulfilling its obligations as a member of society into practice, and is dedicated to transparent management.

Dongwoo is creating a harmonious and beautiful world through its culture of 'sharing-together'.

# SHARE TOGETHER

Dongwoo Fine-Chem Strives for a  
'Sharing-Together' World.



Dongwoo is devoted to making a better society through its systematic mid-to-long-term social contribution program. The emphases of this program span five categories, which are culture & art, health, fellowship/scholarship activities, contribution to local communities and the environment. Fund Together, Turtle Marathon Sponsorships, and Beautiful Store Sponsorships are some of our social contribution programs.

Dongwoo promises to take responsibility as a global leader through social contribution activities, and hopes to play a major role in creating a happier world.



# SHARE TOGETHER

## Science & study

Dongwoo Fine-Chem has introduced its 'Fund-Together' scholarship program, which is aimed at students from families that are in the lower-income bracket, but who do not qualify for governmental aid. The program is funded through the voluntary participation by Dongwoo employees, who are allocated to students on a 1 to 1 basis for a related mentoring program. Also, we hold an annual Beautiful Store and charity bazaar; all proceeds go to children in low-income households in the local community.

## Health

Since 2004, Dongwoo Fine-Chem has been participating annually in the Turtle Marathon Game as part of its effort to make a 'Living-Together' society. The game is an event in which disabled and able-bodied athletes run a 6.5km course hand in hand, to inspire hope and a spirit of challenge in the disabled.

## Art

Together with its mother company, Sumitomo Chemical, Dongwoo Fine-Chem co-sponsored an exhibition of <Korean Traditional Costumes 'Chima-jeogori'> that was held in Tokyo to mark the 40th anniversary of the amity treaty between Korea and Japan. Starting with this initiative, the Company has continuously propagated a Mecenat Movement, contributing to cultural exchange and cultural industry in the two countries. Moreover, since 1998 it has been an official sponsor of the Japan Week event, which is held annually at provincial cities. These efforts to bridge the cultural gaps between the two countries will be actively continued.

## Relationship

Employees of Dongwoo Fine-Chem have organized voluntary service groups in Pyeongtaek and Iksan to serve their communities. Every year, employees participate in an activity called 'Briquette Sharing with Love' on the first Saturday in December to help seniors living alone to stay warm through the winter. In addition, there are Dongjabong (Seoul), Red-Cross (Pyeongtaek) and Dongwoo Service Volunteers Gathering (Iksan), which gets together to perform service activities like house repair and cooking for school children attending school without lunch.

## Environment

Dongwoo Fine-Chem is engaged in "environment cleaning activities" and works to clean areas around factories and nearby rivers once a month to ensure a clean, bright environment. We also visit local homes for children and seniors once a year to make donations and do volunteer work.

# CREATE TECHNOLOGY FOR A BETTER FUTURE

## Creating Technology for a Better Future

The aim of environmental administration is to minimize a company's impact on the environment, and to realize the systematic management of the environment by creating environment-related directives and systems. Dongwoo Fine-Chem's product development and production are firmly backed by our environmental administration policy. It is our firm belief that it is only by thinking of our impact 100 years in the future that we can become a global leader in the true sense.



### Environmental and Safety and Health Management with All Employees

Dongwoo Fine-Chem has realized the importance of the environment for customers, partners, local residents, and public communities and we are executing the Environmental Management that satisfies the international standards of ISO14001. We are strictly operating internal audits and post audits for a sustainable environmental system and reviewing environmental laws, environmental impact and safety control in advance for industrialization and environmental impact assessment when there is a new business, expansion, or change in process. Also, we have realized the importance of health and safety of all employees to execute the Safety and Health Management that satisfies OHSAS18001. We have a solid autonomous management system for the safety and health of our members and operate hazard assessment, hazard prediction training, safety patrols, and safety campaigns to predict and prevent hazards in advance.

### Responsible Care activity for protection of human life and the environment

Responsible Care is a public commitment in which a company promises to protect the environment and human health for the entire life cycle of a chemical product, spanning from development to disposal. By adopting this as a management policy, Dongwoo commits itself to leading the execution of comprehensive environmental safety and health improvement measures by focusing on environmental management, disaster prevention and customer safety, and focusing its efforts on minimizing direct or indirect impacts. Since 2003, Dongwoo has organized and operated its "Total RC Committee" for the effective realization of this commitment. Making it a rule to hold an annual meeting of the Committee, Dongwoo utilizes this as an arena for presenting the company's performance, exchanging information and deriving improved policies, enabling the Committee to put Responsible Care into practice.

### Thorough compliance in the management of environmentally hazardous materials, including legal obligations locally and overseas

To ensure the thorough management of materials that are detrimental to the environment, Dongwoo Fine-Chem performs preliminary training for such chemical management systems as the management system for strategic materials, REACH, GHS, HSPM, etc. by which the company-wide countermeasures are planned and followed by each of our business sites. Furthermore, the standardized company-wide system for managing chemical materials is directly applied to the production, sales and export/import sections, and regular checks and hazardous materials management education are carried out. In addition, the company-wide computerized system keeps data connected with the application of import/export, inspection, legal management, etc. in the database, enabling the real-time monitoring of poisonous chemicals.

### Certified green company aiming at being the No. 1

Dongwoo Fine-Chem has been designated as a green company by the Ministry of Environment. We have spontaneously signed an agreement to reduce chemical discharge since 2015 and applied 3W to recycle wastewater and reduce greenhouse gas, improve packaging containers, and recycle wastes. Our green management has contributed to a cleaner environment by producing more environmentally-friendly products to save resources and energy and reduce pollutants. In all stages from ingredients to final finished products, we are managing strictly so all of our products are free of the harmful materials restricted by the EU and inspecting environmental safety as our priority in every process from engineering production facilities to researching products. We are also constantly studying how our products affect the society and the environment from manufacture to disposal to ensure the safety of our customers.

# AMBITIOUS DONGWOO EMPLOYEES

## ASPIRING DONGWOO FINE-CHEM

Ambitious Dongwoo Employees,  
Aspiring Dongwoo Fine-Chem



Dongwoo Fine-Chem employees never stop with a job half-done, but strive to develop strengthened capabilities as global leaders. The truest supporters of Dongwoo Fine-Chem are those employees who are armed with an always-prepared attitude, taking on new challenges with enthusiasm.

### Core value, TECH

Dongwoo Fine-Chem has one core value that must be pursued by all employees of the company to achieve sustainable growth in the IT materials area. Employees of Dongwoo Fine-Chem need to provide differentiated value to internal and external customers through trust, passion and a love for new challenges. Dongwoo Fine-Chem is encouraging activities based on the core value to help employees focus on business operations and create a healthy corporate culture.

### Total system for educating talented workers

Dongwoo Fine-Chem, having opened a new chapter in the history of Korea's IT industry, is doing its utmost to train talent that is worthy of leading the era of unlimited global competition. To do this, the Company has developed its own total system for cultivating talent in an effective, systematic manner.

### Cultivation of world-class talent

Dongwoo Fine-Chem is cultivating talented self-starters who are armed with a spirit of professionalism by aggressively investing in continuous education and self-development programs to equip employees with the skill to compete in the world market. In particular, through various channels with Sumitomo Chemical, the Company is expanding human exchange for opportunities to work in foreign countries.

### Corporate culture program

Dongwoo Fine-Chem is providing full support so that employees can develop a desirable corporate culture, which can positively affect the achievement of the business strategy and goals. Related programs include a counseling program to promote better mental health for employees, the activation of organizations in each of the business premises and the operation of employee communities. The programs also include invitational events for parents of employees, and camps for children of employees. Dongwoo Fine-Chem is continuously developing programs according to the needs of its employees.

#### Linguistic education

- Operation of in-house lectures on foreign languages
- Financial support for enrollment in external institutions

#### Education on improvement of job-related capability

- Operation of in-house job training programs by job type and level
- Financial support for enrollment in external institutions

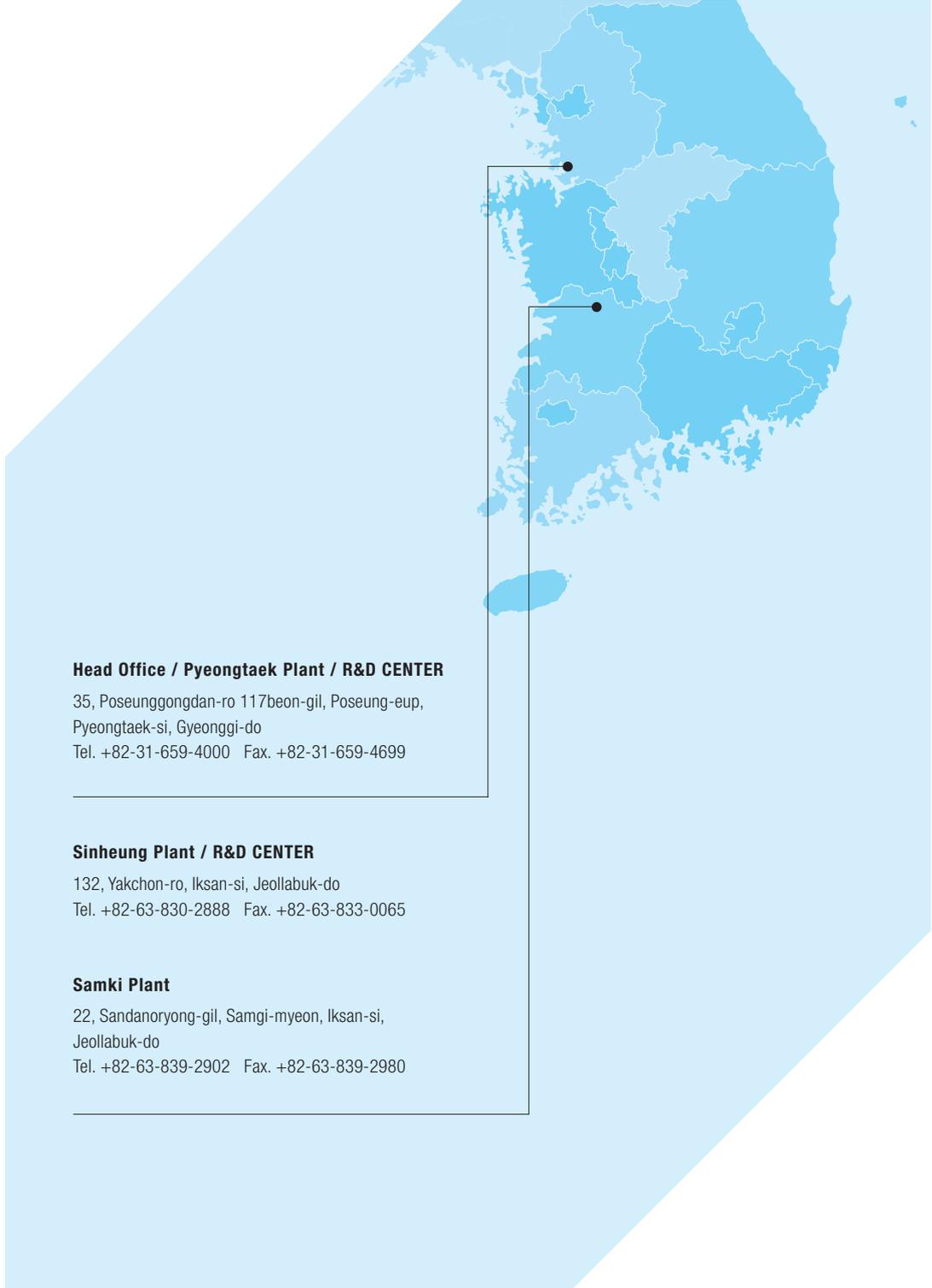
#### Development of capabilities

- Construction of a system to strengthen Dongwoo's unique development of competency
- Support for various capability development programs segmented by job type and level, including on/offline education and reading

#### Leadership/coaching

- Operation of stepwise leadership/coaching education programs to improve capability as managers





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