

Otsuka Chemical Co., Ltd.



Introduction

Corporate Philosophy of Otsuka Holdings

Otsuka-people creating new products
for better health worldwide

Corporate Philosophy of Otsuka Chemical

Trusted by individuals,
Trusted by the company,
Trust is the dream of our society.
Building trust with technology
and commitment.
Spreading trust with the people
around the world.

Otsuka Chemical Declaration on Health

Corporate philosophy of Otsuka Holdings:
“Otsuka-people creating new products for better health worldwide”

Corporate philosophy of Otsuka Chemical:
“Trusted by individuals,
Trusted by the company,
Trust is the dream of our society.
Building trust with technology and commitment.
Spreading trust with the people around the world.

In order to realize these corporate philosophies, we need to recognize the importance of each employee’s mental and physical health.

Otsuka Chemical declares that it will provide workplace environments where employees can have trusting relationships in a vibrant atmosphere, while maintaining and improving their health.

April 2018
Otsuka Chemical Co., Ltd.
President and Representative Director:
Takeharu Harashima

Message from the President

Otsuka Chemical’s Vision for the Future

Otsuka Chemical is a company that
collaborates with customers to find
creative new ways to utilize advanced
materials.

Takeharu Harashima



President and Representative Director



Otsuka Chemical’s corporate philosophy is “Trusted by individuals, trusted by the company, trust is the dream of our society. Building trust with technology and commitment. Spreading trust with the people around the world.” Following this philosophy, we have for years now leveraged our original technologies to provide one-of-a-kind, number-one products. As a result, we enjoy the trust of customers and continue to contribute to society.

While coping with constant change, society today faces many global-scale challenges, including issues related to energy, environmental destruction, food, water resources, and climate change. Otsuka Chemical got its start by extracting chemicals from seawater bittern. Our products and technologies benefit from the gifts of nature and are now being used in a variety of industries. By further broadening our perspective from chemistry to other sciences, Otsuka Chemical will continue to create original technologies. Moreover, we will maintain our earnest efforts to address global issues, seeking to ensure that future generations can inherit a healthy planet.

Many of Otsuka Chemical’s products make a strong environmental contribution, including compounds which help make plastics recyclable and chemicals which lower the fuel consumption of automobiles. As countries worldwide face nuclear power issues, the “capability of materials” will be essential for developing renewable energies, which will be in even greater demand in the future. Otsuka Chemical aims to work with customers in all kinds of situations, creating new solutions by utilizing advanced materials. By continuing to expand our R&D sites worldwide, we will continue to advance and develop materials that can contribute to a more sustainable world.

“Following the philosophy of Otsuka Group, ‘Otsuka-people creating new products for better health worldwide,’ the goal of Otsuka Chemical is to contribute to better life and better global environment as the Otsuka Group’s leader in the field of chemicals.”

Overview

Otsuka Chemical Co., Ltd.

Established: August 29, 1950

Capital: 5,000 million yen

President and Representative Director: Takeharu Harashima

Head Office: 3-2-27 Ote-Dori, Chuo-Ku, Osaka 540-0021, Japan

Employees: Consolidated 1,927 Non-consolidated 533 (as of December 2017)

Net sales: Consolidated*: 63,788 million yen (FY2017)

Non-consolidated: 30,873 million yen (FY2017)

* The consolidated figures have been calculated using data from Otsuka Chemical Co., Ltd. and its subsidiaries (including overseas affiliates), and have not been audited.



Head Office

Locations

Head Office

3-2-27 Ote-Dori, Chuo-Ku, Osaka 540-0021, Japan
TEL: +81-6-6943-7701

Tokyo Headquarters

2-2 Kanda-Tsukasamachi, Chiyoda-ku, Tokyo 101-0048, Japan
TEL: +81-3-5297-2727

Chubu District

Sakuradori Toyota Bldg. 13F, 4-5-28 Meieki, Nakamura-ku, Nagoya 450-0002, Japan
TEL: +81-52-571-5526

Central R&D Functional Composite Material Laboratory, Advanced Polymer Laboratory

Kagasuno 463, Kawauchi-cho, Tokushima-shi, Tokushima 771-0193, Japan
TEL: +81-88-665-1689

Tokushima Factory

Kagasuno 463, Kawauchi-cho, Tokushima-shi, Tokushima 771-0193, Japan
TEL: +81-88-665-1516

Matsushige Factory

139-40 Aza-toyohisakaitaku, Toyohisa, Matsushige-cho, Itano-gun, Tokushima 771-0213, Japan
TEL: +81-88-699-7980

Naruto Factory

615 Aza-Hanamen, Satoura, Satoura-cho, Naruto-shi, Tokushima 772-8601, Japan
TEL: +81-88-684-2266

Otsuka Chemical Group

Otsuka-MGC Chemical Company, Inc.

Established: April 1, 2004

Capital: 450 million yen

Address: Higobashi MID Bldg.2F, 1-5-16 Edobori, Nishi-ku, Osaka 550-0002, Japan

TEL: +81-6-6445-1501

FAX: +81-6-6445-1502

URL: <http://www.moc-hh.co.jp/>

Otsuka-MGC Chemical Company is the largest maker of hydrazine hydrate in the world and the only company that makes it in Japan. The company was created by spinning off and merging the hydrazine businesses of Mitsubishi Gas Chemical Company, Inc. and Otsuka Chemical Co., Ltd. in April 2004. In addition to its main applications in water treatment, chemical foaming agents, and agricultural chemicals, hydrazine hydrate is now being used in a broader range of fields including electronics, healthcare, power plants, plastics, and chemicals. It is becoming increasingly important as a product indispensable for maintaining today's safe and prosperous lifestyles. The company is proud of its position and responsibilities as the top global manufacturer of hydrazine hydrate, and it will strive to expand its business into new fields while continuing to contribute to the environment and energy sectors.



Higashiyama Film Co., Ltd.

Established: May 23, 1949

Capital: 1,087 million yen

Address: Sakuradori Toyota Bldg. 13F, 4-5-28 Meieki, Nakamura-ku, Nagoya 450-0002, Japan

TEL: +81-52-589-9105

FAX: +81-52-589-9107

URL: <http://www.hynt.co.jp/>

Established in 1949, Higashiyama Film has a history of more than half a century. It started by making paper-covered wire for electric fan motors and transformers, and then moved on to molding polyester film, using equipment developed in-house. Today, the company provides new materials with high added value by adding to the functionality of polyester film, such as film coatings with optical properties used to make touch panels. Based on a history of trust, Higashiyama Film is meeting customer needs through its ability to select materials in cooperation with raw material manufacturers, its technology for film processing using equipment developed in-house, as well as its human resources and field experience necessary to realize this expertise.



ILS Inc.

Established: May 20, 2003

Capital: 100 million yen

Address: 1-2-1 Kubogaoka, Moriya-shi, Ibaraki 302-0104, Japan

TEL: +81-297-45-6342

FAX: +81-297-45-6353

URL: <http://www.ils.co.jp/english/>

Aiming to be a company that can contribute to the development of the life sciences and healthy lifestyles, ILS is pursuing product development that utilizes biological component extraction, separation and purification, as well as peptide synthesis technology. The company will continue developing and manufacturing products in both the pharmaceutical and health food fields to help maintain and promote health.



Agribest Co., Ltd.

Established: September 1, 2003

Capital: 80 million yen

Address: 25 Nishihara, Kagami, Ichiba-cho, Awa-shi, Tokushima 779-0301, Japan

TEL: +81-883-36-6201

FAX: +81-883-36-6202

URL: <http://www.agribest.jp/>

Agribest was established to provide consumers with fresh and delicious agricultural products that make the most of the power of nature and can be clearly traced back to the farms of origin. The company offers consumers safe and reliable agricultural products with excellent quality and at a good price. Through crop production using the latest cultivation techniques, Agribest provides reliability to both consumers and farmers, while also pursuing earnings growth.



Otsuka Ohmi Ceramics Co., Ltd.

Established: July 14, 1973

Capital: 300 million yen

Address: 3-2-21, Ote-Dori, Chuo-Ku, Osaka, 540-0021, Japan

TEL: +81-6-6943-6695

FAX: +81-6-6943-6487

URL: <http://www.ohmi.co.jp/>

Since its foundation in 1973, Otsuka Ohmi Ceramics has offered a product lineup in three main categories—large ceramic boards, terracotta, and OT ceramics—with a wide array of products to satisfy our customers' needs, from flat and three-dimensional art materials to architectural pieces and decorative works for living spaces. Utilizing our highly acclaimed reproduction techniques, we have worked to document and preserve valuable cultural heritage on ceramic boards, which includes full-scale restorations of the murals found in the ancient Kitora burial mound. At the Otsuka Museum of Art, Otsuka Ohmi Ceramics has reproduced more than 1,000 pieces of art to their original size using ceramic boards.



Otsuka Turftech Co., Ltd.

Established: March 12, 2007

Capital: 20 million yen

Address: 1256 Shimomatsu-cho, Kishiwada-shi, Osaka 596-0823, Japan

TEL: +81-72-427-4781

FAX: +81-72-426-0597

URL: <http://turftech.otsukac.co.jp/>

With the aim of making even better artificial turf products, Otsuka Turftech carries out continual research from the standpoint of athletes and facility operators. As Japan's top artificial turf maker, the company has an extensive track record with installations in indoor and outdoor sports facilities, including stadiums and tennis courts across the country. It has also created G-CLAY, a next-generation artificial clay for tennis courts, developed especially for the Japanese climate. This product has been certified by the Japan Soft Tennis Association. The use of G-CLAY for the Maruyama Park tennis courts in Hokkaido in 2012 has been the trigger for its use in a variety of places, and it has been decided to use G-CLAY for 20 courts for the 70th National Sports Festival in Wakayama. Otsuka Turftech is now working to further expand sales of G-CLAY.



New-generation artificial clay for tennis courts

Worldwide Network

Otsuka Chemical maintains a worldwide network in 8 countries gaining trust globally.

Since establishing a company to manufacture and market hydrazine in South Korea in 1988, Otsuka Chemical has established production and marketing bases around the world. These companies strive every day to earn respect as good corporate citizens in their respective countries and communities.



Bases Outside Japan



1 KOC Co., Ltd.

Established: November 2, 1988
Capital: ₩15billion
Address: 67-34, Ijin-ro, Onsan-eup, Ulju-gun, Ulsan, 44998, Korea
TEL: +82-52-240-1200
FAX: +82-52-238-5886
Business description: Manufacture and marketing of hydrazine hydrate
URL: <http://www.ikoc.co.kr>



2 Higashiyama (Shanghai) Function Film Co., Ltd.

Established: December 29, 2005
(capital invested November 13, 2014)
Capital: US\$2.83million
Address: 2831 Jia-hang Road, Jiading District, Shanghai, P.R. China
TEL: +86-21-5995-9408
FAX: +86-21-5995-9407
Business description: Processing and marketing of functional film

3 Higashiyama Film Korea Co., Ltd.

Address: #802, ITTO Tower, 1456, Guwol-dong, Namdong-gu, Incheon-City, 21573 Korea

4 Higashiyama Film (Taiwan) Techo, Co, Ltd.

Address: 5F-3 NO.2 Sec.4,Zhougyang Rd.,Tucheng Dist.,New TaipeiCity236,Taiwan



5 P.T. Lautan Otsuka Chemical

Established: July 17, 1989
Capital: US\$22.5million
Address: Graha Indramas, 5th floor Jl. AIP II K.S Tubun Raya No. 77, Jakarta 11410 Indonesia
TEL: +62-21-5367-1251
FAX: +62-21-5367-1250
Business description: Manufacture and marketing of foaming agents
URL: <https://lautanotsuka.com>



6 Hebron S.A.

Established: November 22, 1961
Capital: € 329,000
Address: Calle Girona, 20 08120 - La Llagosta, Barcelona, Spain
TEL: +34-93-574-2011
FAX: +34-93-560-1559
Business description: Manufacture and marketing of general chemicals, especially resin additives
URL: <http://www.hebronsa.es/index.php/en/>



7 Trocellen Iberica S.A.

Established: December 29, 1988
(capital invested July 31, 2006)
Capital: €6.66million
Address: Avda. Avilla, s/n E-28804, Alcala de Henares, Madrid, Spain
TEL: +34-91-885-5500
FAX: +34-91-885-5501
Business description: Manufacture and marketing of polyolefin foams



8 Otsuka Chemical (Shanghai) Co., Ltd

Established: Oct 16, 2016
Capital: US\$1.0 million
Address : Room208, Office Tower 2, No.900 Shenchang Rd, Minhang District, Shanghai P.R. China, 201106
TEL: +86-21-6236-8548
FAX: +86-21-6236-8160
Business description: Marketing for products of the Otsuka Chemical and Zhangjiagang Otsuka Chemical in China



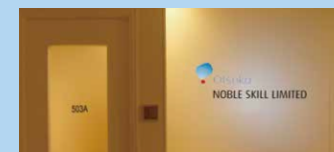
9 Zhangjiagang Otsuka Chemical Co., Ltd.

Established: October 26, 2004
Capital: US\$15million
Address: No. 33, Nanhai Road, Jiangsu Yangzijiang International Chemistry Industrial Park, Zhangjiagang City, Jiangsu 215635, China
TEL: +86-512-5690-7600
FAX: +86-512-5690-7616
Business description: Manufacture and marketing of flaky titanate and special compounds
URL: <http://zjg.otsukac.com.cn>



10 Otsuka Material Science & Technology (Shanghai) Co., Ltd.

Established: March 21, 2013
Capital: RMB10million
Address: 1st Floor, #10 Building, No.471 Guiping Road, Xuhui District, Shanghai 200233, China
TEL: +86-21-6091-7675
FAX: +86-21-6191-2937
Business description: Research and development, and assessment of high-valued-added compounds and combination agents



11 Noble Skill Limited

Established: February 27, 2004
(capital invested January 10, 2014)
Capital: HK\$28.14million
Address: 503A Westlands Centre, 20 Westlands Road, Quarry Bay, Hong Kong.
TEL: +852- 2861-0995
Business description: Resin, Resin parts and Assembling parts



12 Otsuka South China Precision Instruments(Shenzhen) Co., Ltd.

Established: November 13, 2011
(capital invested January 10, 2014)
Capital: RMB6.22million
Address: Block B10, A-5 District, Tongfuyu Industrial Zone (Buchong), Shajing, Baoan, Shenzhen, Guangdong, China
TEL: +86-755-8144-4001
FAX: +86-755-8144-4008
Business description: Manufacture and sale of plastic precision parts



15 Otsuka Chemical America, Inc.

Established: February 6, 2014
Capital: US\$27million
Address:100 The Lakes Parkway, Griffin GA 30224 USA
TEL: +1-678-572-4665
Business description: Manufacturing and selling Terracess (fiber-free potassium titanate)



14 Otsuka Chemical do Brasil Ltda.

Established July 11, 1997 (acquired February 28, 2007)
Capital: R\$33.21million
Address: Rua do Paraíso, 45 - Conj. 31 ZIP 04103-000 - Paraiso - Sao Paulo/SP, Brazil
TEL: +55-11-4306-0001
FAX: +55-11-2368-6373
Business description: Manufacture and marketing of polyolefin foams
URL: <http://www.otsukachemical.com.br/>



13 Otsuka Chemical (India) Pvt. Ltd.

Established: January 2, 2006
Capital: Rp415million
Address: 402 JMD Pacific Square, Sector-15, Part-II, Near 32nd Mile Stone Gurgaon-122001 Haryana India
TEL: +91-124-4597979
FAX: +91-124-4597980
Business description: Manufacture and marketing of pharmaceutical intermediates
URL: <http://www.otsukaindia.com/>

Subsidiaries Outside Japan

Aiming to Earn Global Trust

Since establishing a company to manufacture and market hydrazine in South Korea in 1988, Otsuka Chemical has established production and marketing bases around the world. The company is striving each day to enhance its reputation as a good corporate citizen in countries and territories worldwide.

[Spain]



Trocellen Iberica S.A.



[Spain]



We contribute to the lives of people
around the world by utilizing
the power of materials.



Hebron S.A.

[India]



Otsuka Chemical (India) Pvt. Ltd.



[Indonesia]



P.T. Lautan Otsuka Chemical

[U.S.A.]



Otsuka Chemical America, Inc.

[South Korea]



KOC Co., Ltd.

[China]



Zhangjiagang Otsuka Chemical Co., Ltd.

Otsuka Group

Corporate Philosophy of Otsuka Holdings

Otsuka-people creating new products for better health worldwide

Overview

The Otsuka group of companies is a total-healthcare enterprise that aims to contribute to the health of people around world under the corporate philosophy, "Otsuka-people creating new products for better health worldwide".

Healthcare is broadly and holistically addressed through the two main pillars – the pharmaceutical business for the diagnosis and treatment of diseases and the nutraceutical*1 business to support the maintenance and promotion of everyday health. Our 46,000*2 employees across 183 companies in 28 countries and regions take on challenges across various fields and themes to help fulfill the universal wish of people to be healthy. Our pursuit of these challenges is motivated by the Otsuka's corporate culture, articulated as "Ryukan-godo" (by sweat we recognize the way), "Jissho" (actualization) and "Sozosei" (creativity), and fostered by successive generations of Otsuka leaders. By striving to provide unique products and services, we seek to achieve sustainable growth and be an indispensable contributor to the world.

*1. Nutraceuticals: nutrition + pharmaceuticals *2. As of end of December, 2017

Organizational Structure

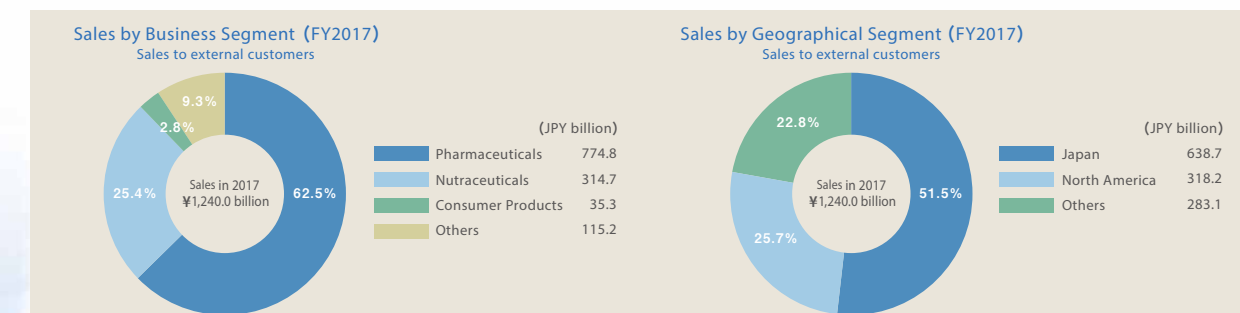


As of April, 2018

Milestones

- 1921 Founded as a chemical raw material manufacturer in Naruto City, Tokushima Prefecture
- 1946 Started infusion (intravenous solutions) production, entering the pharmaceuticals field
- 1965 Launched nutritional drink (ORONAMIN C DRINK), entering the nutraceuticals field
- 1971 Otsuka Pharmaceutical established the group's first pharmaceutical research laboratory
- 1973 First expansion outside Japan, in Thailand and the US
- 2008 Established Otsuka Holdings as a group holding company aiming to increase sustainable corporate value
- 2010 Otsuka Holdings listed on the Tokyo Stock Exchange

Financial Highlights



For more information about Otsuka Holdings : <https://www.otsuka.com/en/>
For information about Otsuka's CSR : https://www.otsuka.com/en/csr/hd_activity/

Otsuka Chemical has continued to grow by living up to the trust of its customers through technology and heartfelt commitment.

Since its founding in 1950, Otsuka Chemical has won the trust of numerous customers as a top manufacturer and marketer of chemical products. Going forward, Otsuka Chemical will pursue further growth as a core company in the Otsuka Group.

1950	Otsuka Chemicals Inc. established. Manufacture and marketing of potassium nitrate and hydrazine started. Tokushima Factory (present-day Naruto Factory) established.	1988	Otsuka Chemical Korea Co., Ltd. (Present KOC Co., Ltd) established.	2003	Agribest Co., Ltd., established.	2011	The 90th anniversary of the Otsuka group.
1956	Uniform AZ foaming agent launched.	1989	P.T. Lautan Otsuka Chemical (Indonesia) established. Hebron S.A. (Spain) acquired.	2004	Otsuka-MGC Chemical Company, Inc. established. Zhanjiagang Otsuka Chemical Co., Ltd. (China) established.	2013	Otsuka Chemical Co., Ltd. established Otsuka Material Science & Technology (Shanghai) Co., Ltd. (China)
1965	Oronamin C Drink launched. (Note: Otsuka Pharmaceutical Co., Ltd., markets Oronamin C Drink at present.)	1990	Antibiotic intermediate GCLE launched.	2006	Otsuka Chemical (India) Pvt. Ltd. established. Capital invested in Trocellen Iberica S.A. (Spain).	2014	Noble Skill Limited (Hong Kong) acquired. Otsuka South China Precision Instruments (Shenzhen) Co., Ltd. acquired. Otsuka Turftech Co., Ltd. became a subsidiary. Otsuka Chemical America, Inc. established. TERPLUS production facility completed at Tokushima Factory. Higashiyama Film Co., Ltd. Higashiyama (Shanghai) Function Film Co., Ltd. and Higashiyama Film Korea Co., Ltd. acquired.
1968	Production and marketing of Bon Curry started. (Note: Otsuka Foods Co., Ltd., markets Bon Curry at present.)	1991	β -Lactamase inhibitor YTR bulk drug manufacturing facility completed.	2007	Otsuka Chemical do Brazil Ltda. established.	2015	TERRACESS production facility completed at Otsuka Chemical America Inc..
1969	Imagire Factory (now Tokushima Factory) opened. Capital increased to 2.4 billion yen.	2000	Matsushige Factory opened. Advanced titanate products TERRACESS launched.	2008	Ito Life Science Co., Ltd. (now ILS Inc.) acquired.	2016	Otsuka Chemical (Shanghai) Co., Ltd. established.
1974	Hydrazine manufacturing equipment increased.	2002	Otsuka Food Co., Ltd., made a subsidiary through share exchange. Capital increased to 3.3 billion yen. Company name changed to Otsuka Chemical Holdings Co., Ltd. Moved to an operating holding company structure. Otsuka Chemical Co., Ltd., established to take over the chemicals and agrochemicals business Otsuka Furniture MS Co., Ltd. established to take over the furniture business.	2009	Otsuka Chemical Holdings merges with subsidiary Otsuka Chemical, and company name changed to Otsuka Chemical. Became a wholly owned subsidiary of Otsuka Holdings Co., Ltd. through a share exchange.	2017	Expansion of GCLE plant of Otsuka Chemical (India) Pvt. Ltd.
1977	Food additive (flavoring agent) Maltol launched.			2010	AgriTechno business became independent and established Otsuka AgriTechno Co., Ltd. (Present OAT Agrio Co., Ltd.) Otsuka Holdings listed on the First Section of the Tokyo Stock Exchange.		
1978	Potassium titanate fiber TISMO launched.						
1984	Merged with Otsuka Furniture Co., Ltd. Capital increased to 2.8 billion yen. Furniture division established. Company named changed to Otsuka Chemical Co., Ltd.						



Chemical Business Based on a Division System

Chemical Solutions Business

Otsuka Chemical succeeded in establishing Japan's hydrazine industry.
With a focus on hydrazine derivatives, and using advanced synthesizing technologies, it provides high-performance polymers and functional chemicals that can meet a wide range of needs.

Otsuka Chemical is developing its inorganic salts business with a focus on pharmaceutical salts, which the Otsuka Group has long produced. As a top hydrazine manufacturer, Otsuka Chemical produces hydrazine derivatives, foaming agents and azoic catalysts to meet customer needs from the lab to the factory scale.

In its high-performance polymer (TERPLUS) business, Otsuka Chemical developed original catalysts for living radical polymerization, and then constructed a dedicated manufacturing facility for this product. It is being adopted for a wide range of applications including dispersants and adhesives.



Material Solutions Business

Otsuka Chemical carries out original R&D and manufactures new materials and resin compound materials especially in the fields of organic and inorganic materials.

Along with the organic and inorganic material fields, the company is researching, developing and manufacturing distinctive advanced materials and compound materials. In the organic material field, it is developing reactive UV absorbers and the non-halogen flame retardant Phosphazene. In the inorganic materials field, development is focused on ceramic materials used for brakes, resin reinforcing, and electrical conduction. This material R&D is advancing from the micro level to the nano level. The company is also researching and developing various functional compound materials with sliding, precision reinforcing, conductive, dielectric and other properties.



Chemical Science Business

Otsuka Chemical is highly regarded worldwide for its development and manufacturing of pharmaceutical intermediates, reagents, and bulk drugs using proprietary technologies.

Otsuka Chemical researchers independently developed GCLE, an intermediate for cephalosporin antibiotics. Building on the technology accumulated during that process, the company is undertaking R&D into β -Lactam and other medical and agrochemical intermediates and bulk drugs. The company also manufactures aromatic compounds and their derivatives as well as other pharmaceutical intermediates, synthetic reagents, and more. These product lines are highly regarded worldwide not only in the pharmaceutical field, but also in a wide range of other areas such as electronic materials, cosmetic intermediates, and food flavor agent.

-In 2006, the company established Otsuka Chemical India, which is now a manufacturing plant for GCLE.



By focusing on advanced materials and always pursuing technological innovation, Otsuka Chemical aims to create products that help realize more prosperous lifestyles. Centered on hydrazine, inorganic materials, compound materials, and pharmaceutical intermediates, the company provides products globally in the fields of automobiles, electrical and electronic products, housing, and medicine.

Main Products

Potassium nitrate



Sodium chloride



Hydrazine dihydrochloride



Adipic dihydrazide



CHEMCATCH



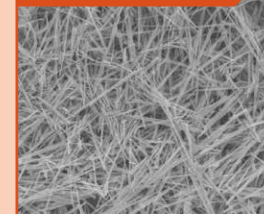
TERPLUS



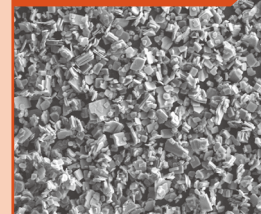
- Inorganic salts
 - Potassium nitrate, potassium chloride, magnesium chloride, sodium chloride, and more.
- Foaming agent for resin
 - Unifoam AZ, Blended Foaming Agents, Inorganic Foaming Agents
- Hydrazine hydrate derivatives
 - Hydrazine derivatives (hydrazine salts, hydrazide compounds, heterocyclic compounds)
 - * Otsuka-MGC Chemical Company manufactures and markets hydrazine.
 - Adipic dihydrazide, Dodecanediohydrazide, Sebacic dihydrazide, Isophthalic acid dihydrazide and more (resin curing, cross-linking agents)
 - CHEMCATCH (deodorizers) Rust Preventive Agents
 - SHADAN (corrosion inhibitors, detergents, surface preparation agents)
- High performance polymer
 - TERPLUS (dispersant and pressure sensitive adhesive)
- Azo type initiators
 - AIBN, ADVN, AMBN, ACVA, and more (Azoic radical polymerization initiator for resin)

Main Products

TISMO



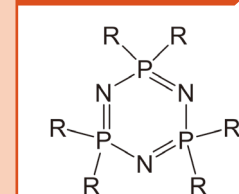
TERRACESS



POTICON



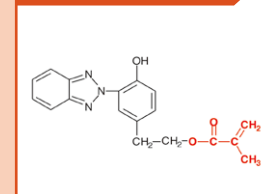
Phosphazene



Q-CHARGE



RUVA



- Advanced materials
 - TISMO (staple material for disk brake pads)
 - TERRACESS (scale-like filler, raw material for next-generation disk brake pad)
 - Phosphazene (non-halogen flame retardant)
 - RUVA (reactive ultraviolet absorbing agent)
- Compound materials (resin compounds with TISMO or TERRACESS)
 - POTICON (high rigidity, surface characteristics, tribological characteristics)
 - POTICON for films
- Electric double layer capacitors (EDLC)
 - Q-CHARGE (electrolyte for use in capacitor)

Main Products

GCLE



Piromatol



Piromatol E



PHME



1,2,3-Triazole



Levulinic acid



- β -Lactam compounds (antibiotic intermediates)
 - GCLE and other custom-made compounds
- Aromatic-related compounds (pharmaceutical intermediates)
 - p-Hydroxyphenethylalcohol (PHEP)
 - p-(2-methoxyethyl)phenol (PHME)
 - p-Hydroxyphenylacetic acid (PHPA)
 - Levulinic acid
- Pharmaceutical-related synthetic compounds
 - 1-HOB (dehydration condensing agent)
 - 1,2,3-Triazole
- Flavor-related compounds
 - Piromatol (Maltol), Piromatol E (Ethyl Maltol)

Automotive

Dispersant

TERPLUS
By controlling the arrangement of components that affect dispersion medium affinity and pigment absorption based on block polymer structure, a product with both outstanding dispersant properties and dispersant stability has been realized.

Windshield

Potassium nitrate
Strength of the glass is improved.

Aldehyde deodorizing agent

CHEMCATCH
As formalin deodorizing agent, this product has proven results in automobiles.

Interior foaming agent-electric parking brake-clutch-side-view mirror-interior trim

UNIFOAM AZ
This product is used for automotive door trim and instrument panels in order to improve the design. It is also used in automotive interior ceilings for soundproofing, anti-vibration, and insulation.

POTICON

It is a compound material made from thermoplastic resin and TISMO, a potassium titanate fiber. It offers high dimensional accuracy and abrasion resistance.

Bumper

DENTALL WK
While offering the features of potassium titanate fiber, this is a white conductive ceramic. It is used as a conductive material for electrostatic paint primer on automotive bumpers.

Car navigation system

PHOSPHAZENE

A non-halogen flame retardant with excellent heat resistance compared to other phosphorus-based flame retardants, the product offers high insulation properties. It is used as a flame retardant for automotive printed circuit boards, where a high degree of reliability is required.

Weatherstripping

UNIFOAM AZ
Used as weatherstripping, the product controls the intrusion of wind, rain, dust and noise.

Friction agent for brake pads

TISMO-TERRACESS

A ceramic with high strength, high rigidity, and a high aspect ratio. It is used for oil filters and as a friction material for brakes.

Anti-chip coating

Adipic dihydrazide
Isophthalic acid dihydrazide
Dodecanediohydrazide

Resin curing agents that are widely used in areas such as adhesives and paints.

Electrical and electronic equipment

Camera module

POTICON

A compound material made from thermoplastic resin and TISMO, a potassium titanate fiber. It is a high-performance compound with a high dimensional accuracy and micro reinforcing.

LED

POTICON
Used for LED reflectors found in display light sources, due to its highly reflective and weather resistant properties.

Glass

Potassium nitrate
Used as a reinforcing agent for glass.

Printed circuit boards

PHOSPHAZENE

A non-halogen flame retardant with excellent heat resistance compared to other phosphorus-based flame retardants, it is ideal for high-performance electronic materials applications, due to its high insulation properties.

Heat insulating bush

POTICON

Fixed gear, Slide bearing

POTICON

Drum flange gear

POTICON

Ink cartridge bearing

POTICON

Condensers, reducing agent

Hydrazine Derivative

Printed circuit boards

PHOSPHAZENE

Touch panel

Hard coat film
Anti-shatter film

This product is manufactured and sold by Higashiyama Film a subsidiary of Otsuka Chemical.

Semiconductor-related cleaning agent

Hydrazine Derivative

It is used as a cross-linking agent enabling curing at low temperatures, and it has high reactivity to thermosetting resins such as acrylic and epoxy.

Dispersant, Pressure Sensitive Adhesives

TERPLUS

Pigment dispersant: Color filter, inkjet ink etc.
Pressure sensitive adhesive: Protective film for various processes, OCA etc.

Membrane Switch

Industrial printing film

This product is manufactured and sold by Higashiyama Film a subsidiary of Otsuka Chemical.

Driver roller

POTICON

Housing-related

LED

POTICON

It is used for LED reflectors found in display light sources, due to its highly reflective and weather resistant properties.

Glass

Potassium nitrate
Used as a reinforcing agent for glass.

Printed circuit boards

PHOSPHAZENE

Flavoring

PIROMATOL

It is used as a food additive flavoring.

Food additives and food processing

Sodium chloride-Potassium chloride-Potassium nitrate

Deodorizer for interior paint

CHEMCATCH

As formalin deodorizing agent, this product has proven results in various fields including building materials and paint.

Paint for interior building materials

RUVA-93

A benzotriazole type ultraviolet absorber with a reactive group. It is ideal for film and paint applications where heat resistance and long-term stability are required.

Pharmaceuticals

Pharmaceutical raw materials

1-HOB

It can be used as an active ester agent at the time of dehydration condensation. In particular, it provides the power for racemization prevention during peptide condensation.

Pharmaceutical intermediates

GCLE
p-Hydroxyphenethylalcohol (PHEP)
p-(2-Methoxyethyl)phenol (PHME)
p-Hydroxyphenylacetic acid (PHPA)

These are aromatic compounds for pharmaceutical synthetic raw materials and various β -lactam compounds, including GCLE as intermediate for cephalosporin antibiotics.

I.V. solutions

Potassium chloride
Sodium chloride
Calcium Chloride Dihydrate
Magnesium Chloride Hexahydrate

Peptide pharmaceuticals

Elcatonin-Glucagon-Buserelin acetate-etc.

This product is manufactured and sold by ILS, a subsidiary of Otsuka Chemical.

Focusing research and development on creating the products the world needs

The research and development sections of Otsuka Chemical research and develop products for the global market using world-class technology, under the motto of “contributing to the customer using innovative technology.” The organization includes the Central R&D, Advanced Polymer Laboratory, Performance Compound R&D Laboratory and the Technology Development Department. The labs’ experiments range from basic research, to mid-stage research trial manufacturing, to applied research.

Central R&D

Aiming at the development of revolutionary only one product.



Otsuka Chemical conducts research and development that contributes to society by creating core technologies, building confidence in technologies, and achieving sustainable development.

The Central R&D Laboratory aims to develop innovative, one-of-a-kind products through research and development from the perspectives of new market needs and technology seeds. These efforts are based on elemental technologies developed in past research activities in the fields of inorganic materials and functional organic materials, as well as on core technologies acquired through product development. To achieve this goal, rather than relying solely on in-house resources, the laboratory also makes the most of external resources, domestic and worldwide, which helps to accelerate development.

In the field of inorganic materials, we are focused on the development of ceramic materials for friction material applications as typified by advanced-Titanate Products and their derivatives. Also, we are moving from the micro-world into the nano-world and promoting the R&D of new functional materials.

In the field of functional organic materials, we have promoted nitrogen chemistry developed in the hydrazine business, one of our main businesses, and we have developed materials for next-generation electrical storage devices and new rubber chemicals. In addition, we have promoted elemental technologies of chemical substance design developed in the pharmaceutical business and carried out research and development based on demand.

In line with Otsuka Chemical’s aim of becoming a company that collaborates with customers to find creative new ways to utilize advanced materials, the Central R&D Laboratory seeks to create technologies and products that will serve as the basis for this.

Advanced Polymer Laboratory

The controlled radical polymerization technology creates the new value to the market.

We propose the functional polymer materials using the controlled radical polymerization technology “TERP”, which is developed by the collaboration with Yamago’s Laboratory in Kyoto University. “TERP” enables the design of various functional polymer materials with the new properties, due to its well-controlled molecular weight, the wide range of monomer applicability, the block copolymer synthesis, and so on.. We have been developing “TERPLUS N series” for the pressure-sensitive adhesive applications utilizing the well-controlled molecular weight in high molecular weight, and “TERPLUS D series” for the pigment dispersant applications using the block copolymer synthesis. We are also developing the commercialization processes utilizing the pilot facilities in TERPLUS dedicated plant in Tokushima. We have been creating the new values for various applications utilizing “TERP”.



Performance Compound R&D Laboratory

LED devices, printers, smartphones... Virtually limitless potential for application.

Performance Compound R&D Laboratory develops tailor-made plastic compounds based on potassium titanate fiber (TISMO).

The laboratory works with customers to consider the issues they face and offer solutions.

POTICON utilizes the functions of TISMO and is widely used in familiar applications such as precision parts in wristwatches and smartphones and the mechanism element in printers and automobiles. The scrap from injection molding, such as sprues and runners, is also recyclable, contributing to the achievement of zero emissions.

In recent years, the laboratory has moved beyond the development of pellets (materials) and expanded its business domain to films and injection molding parts, putting into practice the aim of collaborating with customers to find creative new ways to utilize advanced materials. The laboratory intends to provide a one-stop solution and remain a presence trusted by customers.



Technology Development Department, Production Headquarters

Creating Competitiveness in the Global Market through Development and Production.

The Technology Development Department plays an active role with the mission of maintaining the expansion of existing businesses by pursuing constant innovation. As the company’s products are manufactured and sold both in and outside of Japan, the department’s sphere of activity has expanded worldwide. Customers around the world have diverse needs, but the need for “high quality, low cost and stable supply” is universal. The department’s greatest mission is to meet these needs while competing with the company’s rivals in the global market.

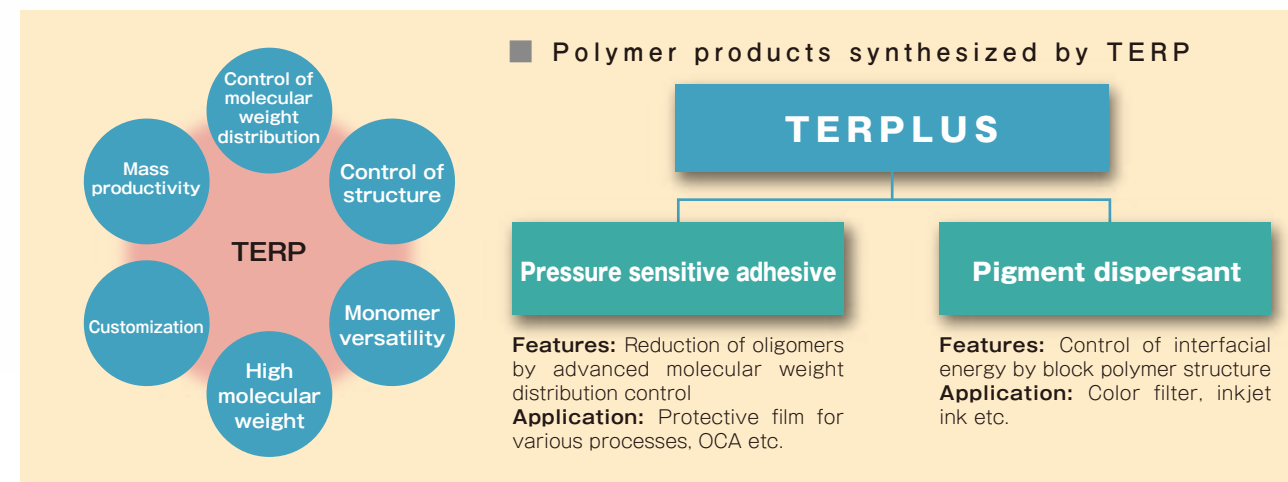
Its strength lies in the integration of organic, inorganic and advanced material products. By bringing together engineers from different fields, the department is strengthening the capacity of production sites as well as product competitiveness in ways that would not have been possible simply by expanding the former structure. It is also pursuing research and development themes aimed at future commercialization.

In addition, it is developing processes which are innovative and safe, in the name of “Ensuring safety through safe processes and safe equipment.” The Technology Development Department is committed to robust manufacturing in every area, and its goal is to deliver the company’s products to a global market that places a high level of trust in Otsuka Chemical.



Development of Functional Polymer Materials

We propose the functional polymer materials for market demands by the advantage of Otsuka's controlled radical polymerization technology "TERP".



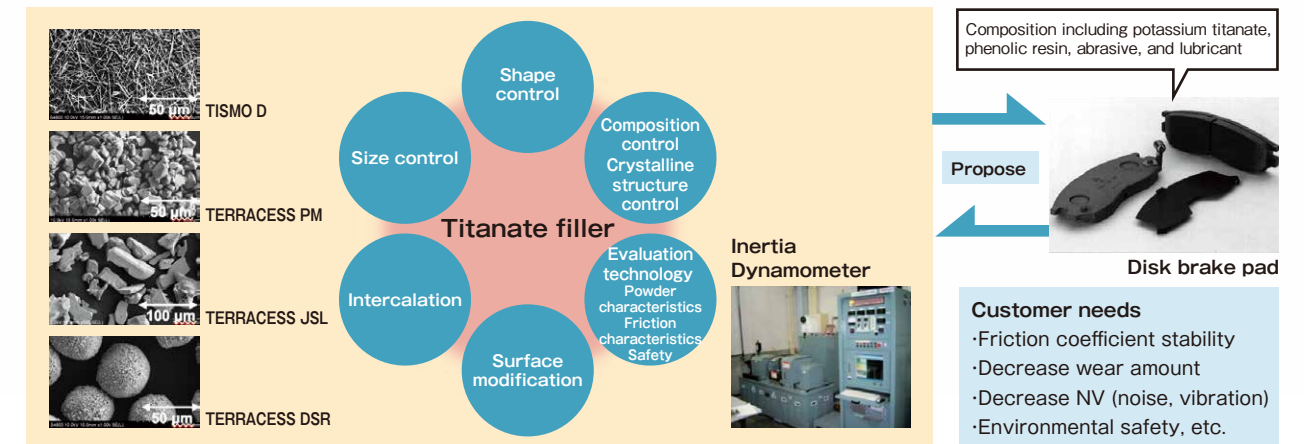
Development of Phosphazene Flame Retardant

Phosphazene derivatives are functional materials whose main components are phosphorus and nitrogen. It is suitable for flame retardant for electrical or electronic material.



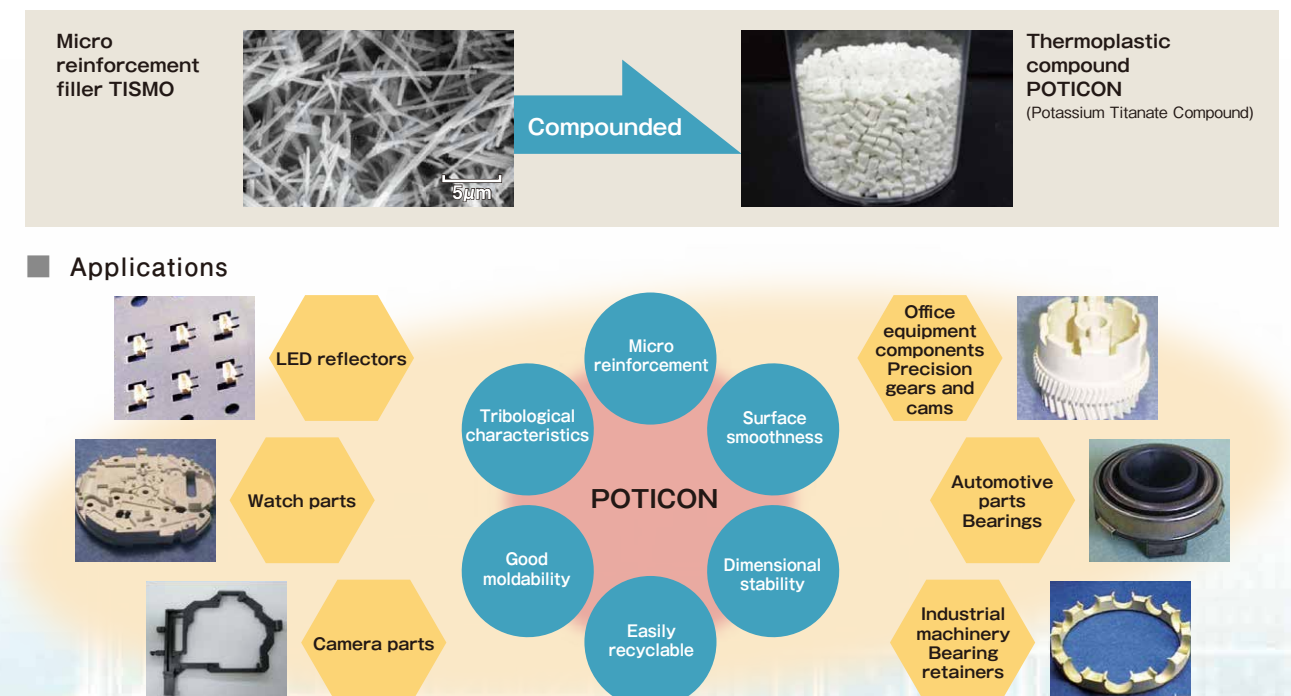
Development of Titanate for Friction Materials

We are pioneering new chemical frontiers in the effects of titanate to meet the needs of diverse customers.



Development of the Resin Compound POTICON

We propose optimal compounds for various precision parts and sliding parts.



Factories in Japan

As an environmentally friendly company, Otsuka Chemical ensures its factories address global warming.

Otsuka Chemical has three production factories in Japan, all in Tokushima Prefecture. These factories actively engage in environmental initiatives, including efforts to save energy, reduce environmental impact, and create environmentally friendly systems. All three factories have obtained ISO 14001 environmental management certification.

Tokushima Factory



The Tokushima Factory opened in 1969 and began production of hydrazine. The following year it began production of Bon Curry and other foods in retort pouches. (Today, the Otsuka Group's foods business is operated by Otsuka Foods Co., Ltd.) In 1973, the factory acquired a license to manufacture pharmaceuticals.

Main Production Lines:

TISMO (functional inorganic fiber),
TERPLUS (dispersant and pressure sensitive adhesive)
Maltol (flavor enhancer), resin additives
and softeners, resin modifiers

Kagasuno 463, Kawauchi-cho, Tokushima-shi,
Tokushima 771-0193, Japan
TEL: +81-88-665-1516 FAX: +81-88-637-1099

Naruto Factory



The Naruto Factory opened in 1950 as the company's first production site. It started with the manufacture of inorganic chemicals, polymerization initiators, and other chemicals.

Main Production Lines:

Inorganic salts

615 Aza-Hanamen, Satoura, Satoura-cho, Naruto-shi,
Tokushima 772-8601, Japan
TEL: +81-88-684-2266 FAX: +81-88-684-2359

Matsushige Factory



The Matsushige Factory was established in 2000 and started to manufacture pharmaceutical intermediates. The following year it began production of the functional plastic compounds POTICON and WHISTATT. It is the company's most advanced production site.

Main Production Lines:

POTICON (Functional composite material)
GCLE derivative (pharmaceutical intermediate)

139-40 Aza-toyohisakaitaku, Toyohisa, Matsushige-cho,
Itano-gun, Tokushima 771-0213, Japan
TEL: +81-88-699-7980 FAX: +81-88-699-7965

Anzen Dojo (Safety Training Center)

Located in the Tokushima Factory, the Anzen Dojo not only imparts safety knowledge through classroom learning, but also aims to improve the hazard awareness of all participants, through hazard experience training. In 2014, this program was recognized by the Japan Chemical Industry Association's 8th Responsible Care Awards.



Quality Assurance Initiatives

The products of Otsuka Chemical are used in various applications in a variety of fields including pharmaceuticals, food products, automobiles, electronics, and housing. By ascertaining individual customer needs as well as the needs of each industry, the company is creating products that satisfy customers based on stringent quality control.

The company's three sites in Japan have obtained integrated international ISO 9001 quality management system and ISO 14001 environmental management system certification. Accordingly, the sites are pursuing continual improvements from both the quality and environmental perspectives. Five subsidiaries outside Japan have also obtained ISO 9001 certification, and Otsuka Chemical has created a global production and quality assurance system.

With a corporate philosophy of trust, Otsuka Chemical is working to continually enhance not just product quality, but also the quality of its people, systems and work. In this way, the company is improving its quality assurance level and the performance of the company as a whole, as well as the value and quality of its products and services. The aim is sustainable growth.



Reducing CO₂ emissions by switching fuels and consolidating equipment

Business sites belonging to Otsuka Group companies operating in the Imagire area of Tokushika City (Otsuka Pharmaceutical's Tokushika Factory and Second Tokushika Factory, Taiho Pharmaceutical's Tokushima Plant) have all done major overhauls to their fuel oil boiler systems. Otsuka Chemical's Tokushima Factory installed 17 small through-flow boilers that run on natural gas (municipal gas), which operate to meet each site's changing production demands. Since January 2009 it has been supplying steam to all sites.

This change was successful in the reduction of annual CO₂ emission generated during steam production by about 700 tons for Otsuka Pharmaceutical's two factories and about 2,200 tons for Taiho Pharmaceutical's Tokushima Factory

Otsuka Group Tokushika Factories' Steam Supply System

Otsuka Pharmaceutical Tokushima Factory steam supplied by Otsuka Chemical [100%]

Otsuka Foods Tokushima Factory steam supplied by Otsuka Chemical [100%]
(supplied from before)

Otsuka Chemical Tokushika Factory

17 additional small through-flow boilers
Natural gas (municipal gas)

Taiho Pharmaceutical Tokushima Plant steam supplied by Otsuka Chemical [100%]

Otsuka Pharmaceutical Second Tokushima Factory steam supplied by Otsuka Chemical [100%]

Diversity Promotion and Enhanced Employee Education

Otsuka Chemical is creating supportive workplace environments for all its employees through initiatives for diversity promotion, human resources education and employee welfare.

Diversity Promotion

Otsuka Chemical has established a Diversity Committee as part of its management strategy. The committee aims to improve organizational performance by taking steps to enhance the diversity of human resources, to allow all individuals to demonstrate their abilities, and to generate knowledge synergy. While also aiming to ensure that Otsuka Chemical is an attractive place to work and a company trusted by society, the company is carrying out diversity promotion measures according to the following three company policies, starting with work-life balance initiatives for all employees.



Otsuka Group diversity promotion personnel meeting

Work-Life Balance



The company is enhancing its work-hours programs to support employees with childcare and home care responsibilities. For example, the company offers programs providing shorter or staggered working hours for employees with a young child up through grade 3 of elementary school. There are also similar programs for employees providing home care to an eligible family member, which can be utilized for up to one year. No-overtime days also help to promote work-life balance. As a result of these initiatives, Otsuka Chemical received the 2014 "Kurumin Mark" certification from Japan's Minister of Health, Labour and Welfare, as a company that supports child rearing.

Global Exchange Program



Global exchange of human resources (Visits to Agribest)

In 2014, the Otsuka Group established the Global Exchange Program to find and educate personnel who contribute to our globalization. The Global Exchange Program is also one of our diversity enhancement activities. Today we accept employees from overseas subsidiaries for two weeks to three months, and devise educational programs to help them better understand the Otsuka Group and Japan. For our next step, we plan to give employees of the Otsuka Group practical training at overseas subsidiaries.

Workplace Childcare

The Otsuka Group has established nurseries called "BeanStalk Kids Center" in Tokushima and Osaka. The Tokushima center was opened in April 2011, and is a large nursery that can care for more than 150 children. It was expanded in April 2018 and can now accommodate up to 210 children. The Osaka center was opened in 2014 and, together with the Tokushima center, supports Otsuka Group employees who are working while raising children.



Osaka



Tokushima

Employee Welfare



Otsuka Shiosaiso (Tokushima)



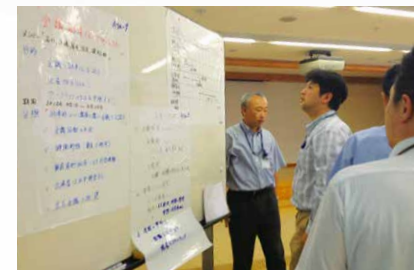
Otsuka Hieizanso (Shiga)



Otsuka Amagisanso (Shizuoka)

The Otsuka Group has four guesthouse facilities operated directly by the group as retreats to support the health of employees. There are six more such facilities under contract to the Otsuka Pharmaceutical Health Association and Otsuka Pharmaceutical Group Pension Fund.

Initiatives for Human Resources Development



Project Management Training

Otsuka Chemical provides opportunities for training and practice to ensure that employees steadily learn new things and make substantial gains through experience. Based on this belief, the company promotes human resources development using on-the-job training. Young employees are often included as members of major projects, regardless of their job title, and actively selected and promoted to positions of responsibility. This approach has not changed over the years, and the company remains focused on systematic human resources development at a time when there is an urgent need for global management due to the rapid social, economic, and industrial changes in recent years.

Training and Education System (Grade-Specific Training)

Along with grade-specific training when employees join the company and at the time of promotion to section chief, assistant manager, and manager, the company provides follow-up training two years after joining the company (for those hired directly from high school, university, etc.) and ample step-up training every four to five years. The aim is for younger employees to experience steady growth. In addition to cross-cultural and foreign language training for employees to be posted outside Japan, the company regularly sends employees to courses at outside educational institutions for systematic management study. Outside instructors are also invited to come and provide special training to employees. Otsuka Chemical is committed to flexible, effective training.



Training session

MBA Support

Each year since 2011, Otsuka Chemical has invited interested employees to apply for company support for tuition toward an MBA. The idea is to foster future management human resources who are ready for the global stage. In addition to performing their jobs and studying at the same time, participants receive instruction entirely in English starting in the second year of the program. The experience is quite demanding for the participants, but they report improved abilities in advanced business administration as well as better English skills and helpful networking with other motivated participants. The employees get a lot out of the program, including the reward of taking on a big challenge.



MBA earned in March 2016



Self-Development Support

Otsuka Chemical has programs to enhance motivation and the desire to learn in employees, such as a language certification reward program and a self-development grant system, which pays half the cost of eligible courses. The company has also implemented the Computerized Assessment System for English Communication (CASEC) and free e-learning courses. This has created an environment where employees have access to a wide range of study opportunities.



Otsuka Chemical strives to enrich people's lives through cultural, educational, and other social contributions.

Otsuka Chemical not only conducts R&D to create better products, but also undertakes social contribution initiatives to enrich people's lives.

The company is deeply committed to its various efforts to make a difference in the world, including support for traditional events, school education, and community cleanups.

Participating in the Awa-odori Festival: Otsuka Hatsuratsu Ren dance team

The Awa-odori Festival in Tokushima is one of Japan's three main Bon-odori dance festivals and is an important event for the local community. Otsuka Chemical's dance team has participated in the event since 1963, and the group changed its name from "Otsuka Chemical Ren" to "Otsuka Hatsuratsu Ren" in 1988. Employees and their families participate in the event every August.



Otsuka Hatsuratsu Ren performing the Awa Dance

Support for Education in Schools

Every year, Otsuka Chemical continues to take part in the "Adopt an Eco-School" program, an alliance among business, government and academia in Tokushima Prefecture. The company does this in partnership with two other Otsuka Group companies, Taiho Pharmaceutical and Otsuka Pharmaceutical. The program supports opportunities to make environmental education part of the lessons at local schools. Students participate in water quality surveys in their own communities and tours of Otsuka Group facilities to see environmental initiatives, both of which help to deepen their interest in environmental conservation.



Tour of a tomato sorting and packing plant

Water quality survey by high school students

Volunteer Community Cleanups

Many employees and their families participate in community cleanup activities around the company's business sites.



Working around a business site

CSR Reports

The CSR activities of Otsuka Chemical are shared in the Otsuka Group CSR Report. The report is prepared based on the five CSR areas of health, environment, quality, culture, and employees.

Otsuka Group CSR website: <http://otsuka.csrportal.jp/en>



Otsuka Group CSR Report



大塚国際美術館
OTSUKA MUSEUM OF ART

<http://www.o-museum.or.jp/english/>

Otsuka Museum of Art

The Otsuka Museum of Art, the world's first museum exhibiting masterpieces reproduced on ceramic panels, was opened in Naruto, Tokushima in Japan, on the 75th anniversary of the founding of the Otsuka Group. The museum displays reproductions of many masterpieces, from ancient murals to modern works, from more than 190 museums in 25 countries. Rendered with special technology developed by Otsuka Ohmi Ceramics Co., Ltd., an Otsuka Group company, more than 1,000 pieces of art are now reproduced in original size.

The museum building is built into a mountainside in order to protect Naruto's beautiful environment and scenery. The permanent exhibitions in three underground levels and two aboveground floors are divided in the three categories of Historical Reconstruction, Historical Development, and a Thematic Section to enable visitors to understand the works in deeper and more enjoyable way.

The museum holds various events and provides education programs to help children become familiar with art. In October 2014, the museum added an exhibit of a ceramic reproduction of a Van Gogh "Sunflowers" painting. The original was destroyed during a World War II air raid and fire in Japan. It is very significant that this lost painting has now been recreated to its actual dimensions. The unique qualities of ceramic plate have made it possible to faithfully reproduce the look of Van Gogh's distinctive thick brush strokes in oil paint.

Tokushima Vortis

The Tokushima Vortis professional soccer team was formed in 2004 to help to revitalize the local region, based on a core group of players from the Otsuka Pharmaceutical soccer club. Working with Tokushima Prefecture's board of education, Vortis is the first J-League team to be involved in the creation of a physical education supplementary textbook. The team is also helping to create a school dietary education program, and is contributing to the healthy growth of children in Tokushima. By taking part in special events at its home stadium as well, Tokushima Vortis is helping to promote the development of the prefecture through soccer.



<http://www.vortis.jp/> (in Japanese only)



©2009 T.V. CO.,LTD.



Otsuka Chemical Co., Ltd.

Head Office 3-2-27 Ote-Dori, Chuo-Ku, Osaka 540-0021, Japan
TEL: +81-6-6943-7701 FAX: +81-6-6946-0860

Tokyo Headquarters 2-2 Kanda-Tsukasamachi, Chiyoda-ku, Tokyo 101-0048, Japan
TEL: +81-3-5297-2727 FAX: +81-3-5297-2777

Chubu District Sakuradori Toyota Bldg. 13F, 4-5-28 Meieki, Nakamura-ku, Nagoya 450-0002, Japan
TEL: +81-52-571-5526 FAX: +81-52-571-5527

<http://www.otsukac.co.jp/en/>



This pamphlet is printed with soy ink,
which reduces emissions of volatile organic compounds.