



TOSOH CORPORATION

The Chemistry of Innovation



*Delivering on our promise of quality products
through The Chemistry of Innovation.*



Tosoh Corporation is a global chemical company that supplies manufacturers with the materials they need to create the products that make modern life all that it is. And everything it can be. We invite you to take a closer look at the wide world of Tosoh.

Basic Facts

\$7.1 billion sales 1,500 products* 11,000 people 132 companies



Our strategy is to balance our commodities and specialties operations to establish a business structure that emphasizes profitability and growth.

*Does not include the 10,000-plus parts that go into diagnostic systems.



Sales Breakdown

FY 2013: US\$7.1 billion



PETROCHEMICAL
US\$2.0 billion
28.1%

BASIC
US\$2.5 billion
35.5%

SPECIALTY
US\$1.4 billion
19.7%

ENGINEERING/OTHER
US\$1.2 billion
16.7%



Modern Life

1,500 products



Look around you, it is almost impossible to find a manufactured item that does not include something from Tosoh.

Paper cups, computers, hybrid cars, homes, solar panels, office buildings, highways, communication networks, drinking water, clothes, shoes, pharmaceuticals, printer inks, cell phones, watches. Even, for some people, teeth—made from Tosoh's advanced ceramic, zirconia!



Greatest Resource

11,000 people



Committed to people as the source of its vitality, Tosoh is proud of the multiethnic, multicultural community it has become. Our diversity brings fresh ideas and creativity to all aspects of our business.



Group

132 companies 19 countries



As we continue to expand globally, our focus remains on creating a corporate culture where people can realize their potential and be a part of the local community.

Environment

US\$562 million investment*



Tosoh is dedicated to improving the quality of life through environmental preservation, to ensuring the safety and health of its employees and society, and to achieving economic progress.

* Our cumulative environmental-related capital investment over the 10-year period from the start of fiscal 2004 was US\$562 million.

R&D: Exploring New Frontiers

870 people \$130 million investment



Through R&D, the Tosoh Group strengthens its businesses and enhances its ability to generate tomorrow's products today. The company combines its own R&D programs with joint research at external research facilities, including at universities and other educational institutions and at public research laboratories.

Strengths

Commodities

Vinyl chain supplies
growing Asian markets

Specialties

Serve global
niche markets



Tosoh combines the largest chlor-alkali commodity operations of their kind in Asia with highly profitable specialty operations.

Products & Markets

Tosoh serves the chemical and petrochemical, construction, automotive, consumer electronics, information technology, bioscience, and environmental markets.



Basic

Chlor-alkali
Cement

Petrochemicals

Olefins
Polymers

Specialty

Organic Chemicals
Bioscience Products
Advanced Materials

Engineering

Water Treatment

Petrochemicals

Olefins

Ethylene
Propylene
C4 Fraction
Tertiary-Butyl Alcohol
Cumene
Aromatic Compounds



On the Road: A Part of Your Daily Life

Tosoh furnishes an array of materials that underpin the electronics, automobile, and plastics industries. Our synthetic rubber helps wet suits insulate wearers from the cold, our engineering plastic polyphenylene sulfide (PPS) strengthens car engine parts, our Melthene polyolefin resin fastens the easy-to-peel lids on yogurt and other food containers, and our Ryuron polyvinyl chloride (PVC) paste puts that soft stretch in rubber gloves.

Polymers

Polyvinyl Chloride

High-Density Polyethylene

Low-Density Polyethylene

Linear Low-Density Polyethylene

Ethylene Vinyl Acetate Copolymer

Adhesive Polymer

Polyvinyl Chloride Paste

Polychloroprene Rubber

Chlorosulphonated Polyethylene

Alkylated Chlorosulphonated Polyethylene

Polyphenylene Sulfide (PPS) Resins

C₉ Hydrocarbon Resins



In the Living Room: A Part of Your Daily Life

Tosoh is there while you're relaxing in your living room. Our polyvinyl chloride covers the inside of your house with easy to clean wallpaper and the outside with durable siding. It also covers the electrical cords that bring your appliances to life and the solar panels that provide your house with energy.

Chlor-alkali

Caustic Soda

Vinyl Chloride Monomer

Calcium Hypochlorite (Niclon[®])

Sodium Bicarbonate

MDI – Methyl Diphenyl Diisocyanate



In the Kitchen: A Part of Your Daily Life

Tosoh supplies essential products that go into plastics, glass, pulp and paper, aluminum, and soaps and detergents. Our resins are used in everything from refrigerators to mixing bowls and utensils, our caustic soda keeps clothes clean, and our Niclon calcium hypochlorite makes drinking water safe.

Basic

Cement

Ordinary Portland Cement

Portland Fly Ash Cement

Portland Blast Furnace Slag Cement



For Strong Structures: A Part of Your Daily Life

Tosoh cement goes into buildings, bridges, and highways. And the recycling capacity of our cement plant helps significantly reduce the waste produced by Tosoh and communities surrounding the plant.

Organic Chemicals

Ethyleneamines

Polyurethane Catalysts (TEDA, TOYOCAT[®])

Bromine

Hydrobromic Acid

Flame Retardants (110R[®], 120R[®], FLAMECUT[®])

Chelating Agents (TS-300, TX-10)

Nonaqueous Solvents (HC series)

Sodium P-styrene Sulfonate (Spinomar[®] NaSS)

High-purity Ethylene Dichloride



For When You Are Out and About: A Part of Your Daily Life

Tosoh provides cutting-edge technologies to the semiconductor, consumer electronics, pharmaceuticals, and medical industries.

Bioscience

Automated Random-Access Enzyme Immunoassay Systems

Reagent Systems

Automated Glycohemoglobin Analyzers

Real-Time Fluorescence Monitoring Systems

High-Performance Liquid Chromatography Columns

Separation Media for Bio-pharmaceutical Purification

High-performance Gel Permeation Chromatography(GPC)
Systems



In Health Care Solutions: A Part of Your Daily Life

Tosoh produces a range of diagnostic and medical products that address the health concerns of developed and developing countries.

Advanced Materials

Yttria-Stabilized Zirconia Powders & Compounds

Grinding Media (YTZ®)

Electrolytic Manganese Dioxide (EMD)

Zeolite Molecular Sieves (Zeolum®)

Zeolite for Catalysts (HSZ® series)

Silica Glass Materials

Fabricated Quartzware

Machined Quartzware

Sputtering Targets



For Conserving Natural Resources

Tosoh is taking steps to ensure its share of the surging market for rechargeable lithium-ion batteries, which conserve energy and are becoming increasingly important value-added components of automobiles and electronic products.

Engineering

Water Treatment (Organo Corporation)

Water Treatment Systems and Products

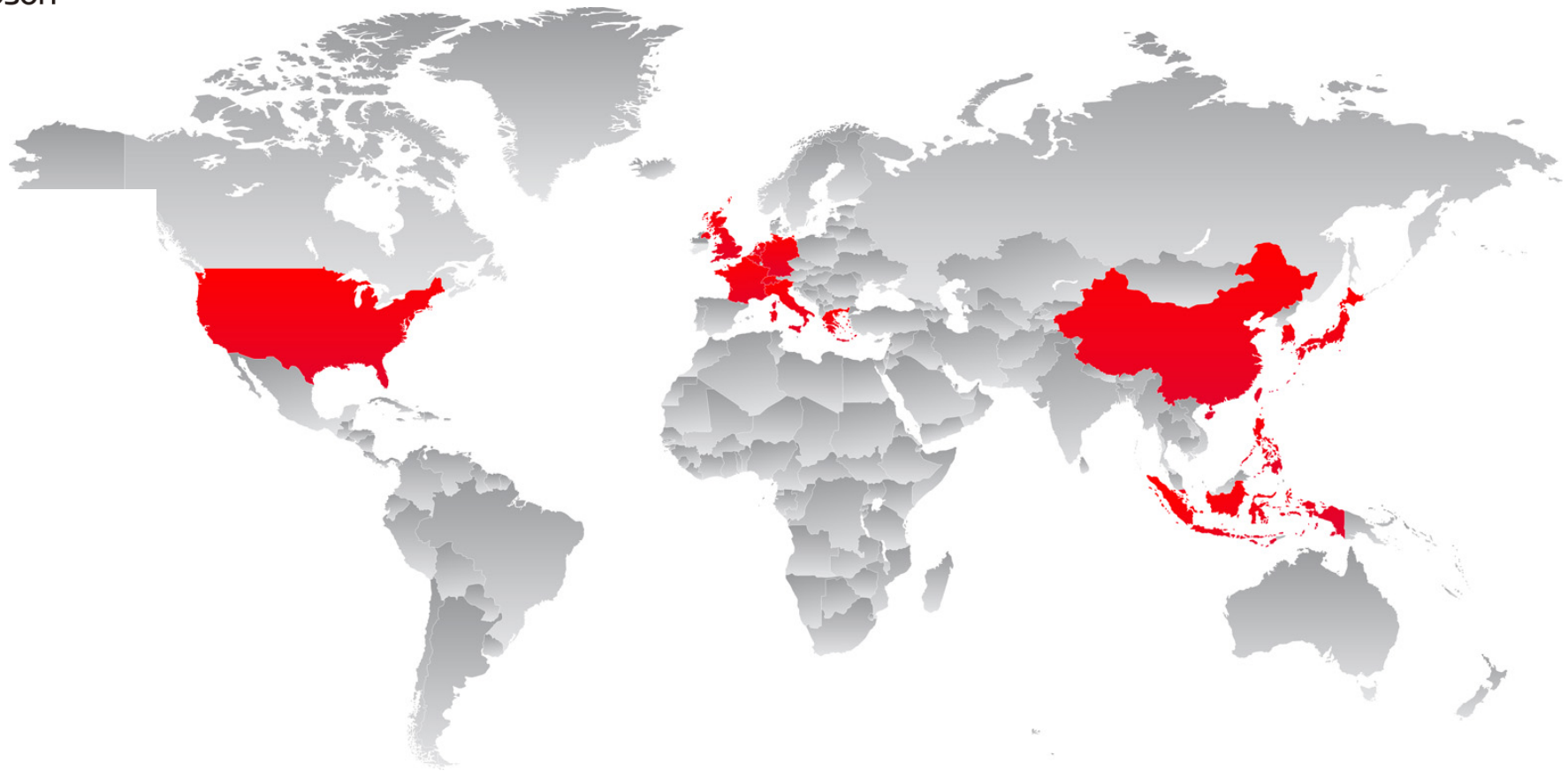


To Keeping Water Pure: A Part of Your Daily Life

Tosoh subsidiary Organo Corporation has been an important contributor to progress in industry and daily lives since 1946. Its water treatment systems and products goes into waterworks, sewage treatment plants, power stations, pharmaceuticals manufacturing, food processing operations, information technology and electronics industries.



Global Presence



Global Solutions

Tosoh first ventured overseas almost 50 years ago, establishing a presence in the United States in the early 1960s. Today, the Tosoh Group boasts a global network that generates a major portion of Tosoh's sales outside Japan.



North America



Tosoh America, Inc.
Grove City, OH

Tosoh USA, Inc.
Grove City, OH

Tosoh SMD, Inc.
Grove City, OH

Tosoh Quartz, Inc.
Portland, OR

Tosoh Bioscience, Inc.
South San Francisco, CA

Tosoh Bioscience LLC
King of Prussia, PA

**Tosoh Specialty
Chemicals USA, Inc.**
Alpharetta, GA

Europe



Tosoh Europe N.V.
Tessenderlo, Belgium
Lyon, France
Berlin, Germany

Tosoh Bioscience GmbH
Stuttgart, Germany

Tosoh Bioscience Ltd.
Redditch, United Kingdom

Tosoh Bioscience, A.G.
Littau, Lucerne, Switzerland

Tosoh Bioscience SRL
Torino, Italy

Delamine B.V.
Amersfoort, The Netherlands

Tosoh Quartz, Inc.
Durham, United Kingdom

Tosoh Europe B.V.
Amsterdam, The Netherlands

Tosoh Hellas A.I.C.
Thessaloniki, Greece

Asia



Philippine Resins Industries, Inc.
Makati City, The Philippines

Tosoh Polyvin Corporation
Batangas, The Philippines

Mabuhay Vinyl Corporation
Makati City, The Philippines

Tosoh (Guangzhou) Chemical Industries, Inc.
Guangzhou, China

Tosoh Logistics Warehouse Co., Ltd.
Guangzhou, China

P.T. Standard Toyo Polymer
Jakarta Pusat, Indonesia

Tosoh Asia Pte. Ltd.
Singapore

China



Tosoh (Shanghai) Co., Ltd.

Tosoh SMD Shanghai Co., Ltd.

Tosoh Bioscience Shanghai Co., Ltd.

Nippon Polyurethane R&D (Shanghai) Co., Ltd.

Nippon Polyurethane Industry (Ruian), Co., Ltd.

Wunzhou, China

Tosoh SMD Korea, Ltd.

Kyungki-Do, Korea

Tosoh SMD Taiwan, Ltd.

Hsinchu, Taiwan

Tosoh Quartz Co., Ltd.

Hsinchu, Taiwan

Tosoh Quartz Co., Ltd.

Tainan, Taiwan



Regional Sales and Marketing Offices



Americas

Tosoh USA, Inc.

**Tosoh Specialty
Chemicals USA, Inc.**

Europe, North Africa

Tosoh Europe B.V.

Southeast Asia, India, Middle East

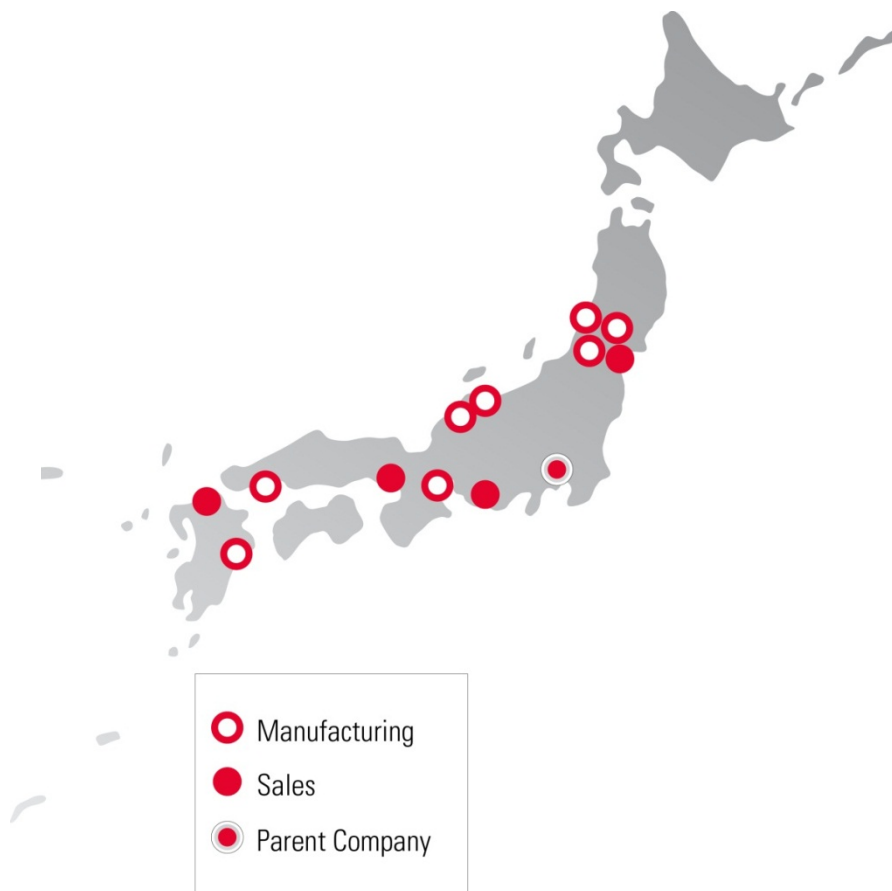
Tosoh Asia Pte. Ltd.

China

Tosoh (Shanghai) Co., Ltd.



Japan



Tosoh Corporation

Tosoh Quartz Corporation

Tosoh SMC Corporation

Tohoku Tosoh Chemical Co., Ltd

Tosoh Zeolum, Inc.

Tosoh AIA, Inc.

Fukuoka Branch

Nagoya Branch

Osaka Branch

Sendai Branch

Tosoh Hyuga Corporation

Tokyo Research Center

Yokkaichi Complex

- Polymer & Plastics Research
- Technology Laboratories
- In-House Power Generation up to 206 MW

Nanyo Complex

- Chemical Laboratories
- Technology Development & Engineering Centers
- In-House Power Generation up to 829 MW



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Additional Information

Vinyl Chain

The vinyl chain is a fully integrated sequence of manufacturing operations that produce several key vinyl-related chemicals from the raw materials salt and naphtha.

Salt is electrolyzed to yield chlorine and caustic soda. The chlorine reacts with ethylene to produce ethylene dichloride (EDC), and the balance is used to manufacture other chlorine derivatives.

Tosoh then converts EDC—which can be combined with caustic soda to produce ethyleneamines, another major Tosoh product—to vinyl chloride monomer (VCM), which is converted into various polyvinyl chloride (PVC) resins.



Vinyl Isocyanate Chain

Tosoh expanded its vinyl chain by supplying chlorine and other raw materials to Nippon Polyurethane Industry Co., Ltd. (NPU), for the production of isocyanates.

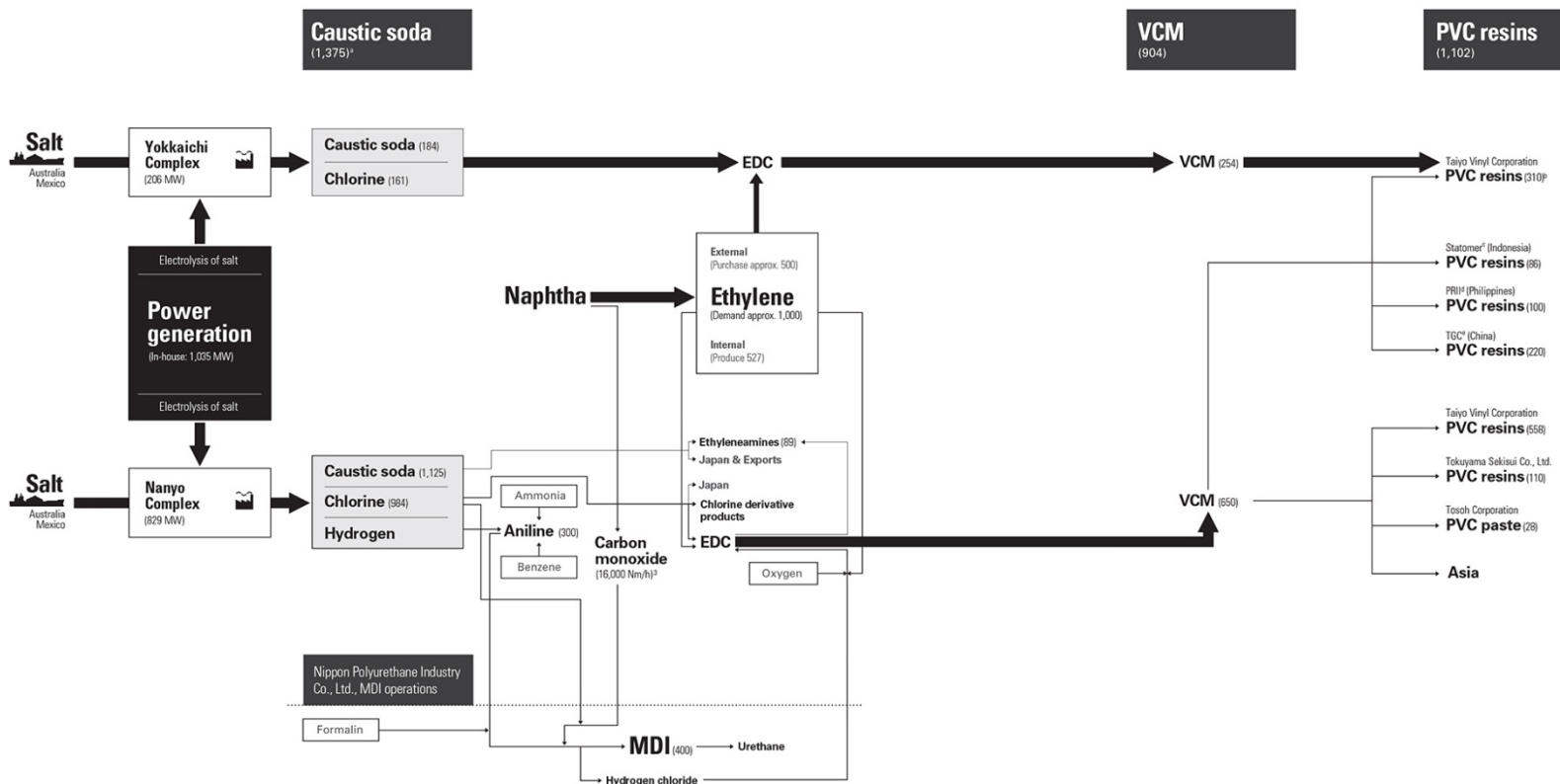
During downstream processes, NPU produces hydrogen chloride as a by-product, and the hydrogen chloride is pumped back to the Nanyo Complex for conversion to EDC.

Our Japan-based synergies result in our international competitiveness.



Tosoh Fully Integrated Vinyl Isocyanate Chain

As of July 2012
Units: 1,000 metric tons



Organization

