



POSITIONED FOR GROWTH

Annual Report 2013

Tosoh Corporation and consolidated subsidiaries
Fiscal year ended March 31, 2013



TOSOH CORPORATION

Values based on monozukuri—“a craftsman-like approach” to product detail and quality—have shaped Tosoh’s destiny and growth for more than 75 years. We take pride in having established a resilient global enterprise whose products and services are woven into the fabric of modern life.

Tosoh Corporation is a Japanese chemical company established in 1935 and listed on the First Section of the Tokyo Stock Exchange. It is the parent of the Tosoh Group, which comprises 132 companies worldwide and a multiethnic workforce of over 11,000 people and generated net sales of ¥668.5 billion in fiscal 2013, ended March 31, 2013.



TOSOH

Annual Report 2013

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(Reference to fiscal year in this report is to years ended March 31. Fiscal 2013 is the year from April 1, 2012, to March 31, 2013.)

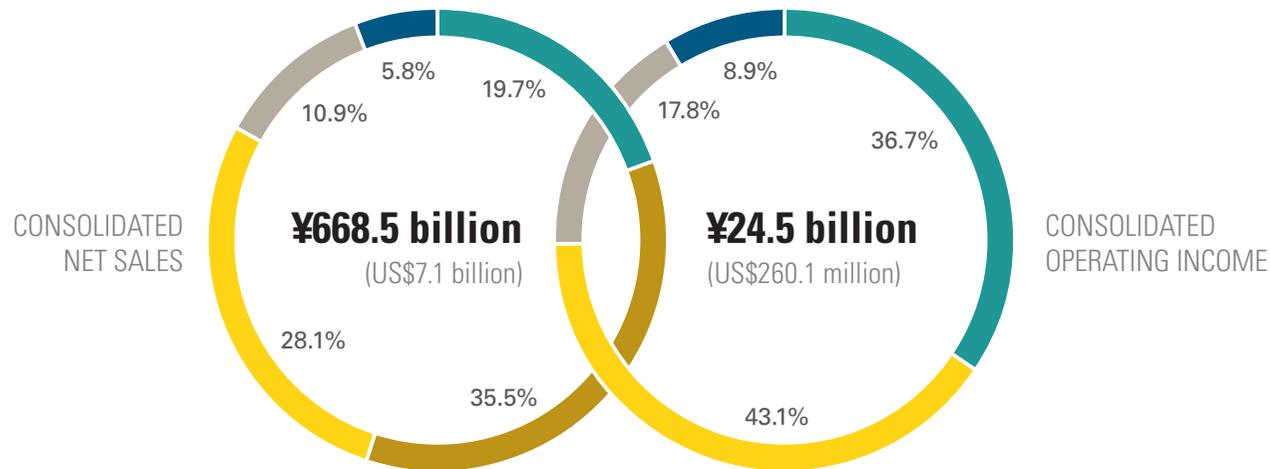
Positioned for growth with the products and people of Tosoh



Cover: Tadashi Tamano started his career with Tosoh in 2005. This young plant operator is an up-and-coming expert who displays leadership. Tamano, in fact, is like a plant doctor. He is known for being able to discern the smallest change in plant performance.

At a Glance

Tosoh invites you to glimpse what it achieved through the chemistry of innovation in fiscal 2013.



Note: The Chlor-alkali Group posted an operating loss in fiscal 2013 and is therefore not included above.

SPECIALTY

Organic Chemicals, Bioscience, Advanced Materials

Strongly positioned and highly profitable products in well-established and growing markets

CHLOR-ALKALI

Basic Chemicals, Cement, Methylene Diphenyl Diisocyanate

Commodities from one of Asia's largest fully integrated commodity chemical manufacturers

PETROCHEMICAL

Olefins, Polymers

Traditional and high-performance and specialty products for a wide range of industries

ENGINEERING

Water Treatment

Environmental-related services, including water treatment and soil purification and remediation, and construction

OTHER

Analytical Services, Logistics, IT, Personnel Management

Services, mainly for Tosoh Group companies, that enhance efficiency and improve interactions with customers

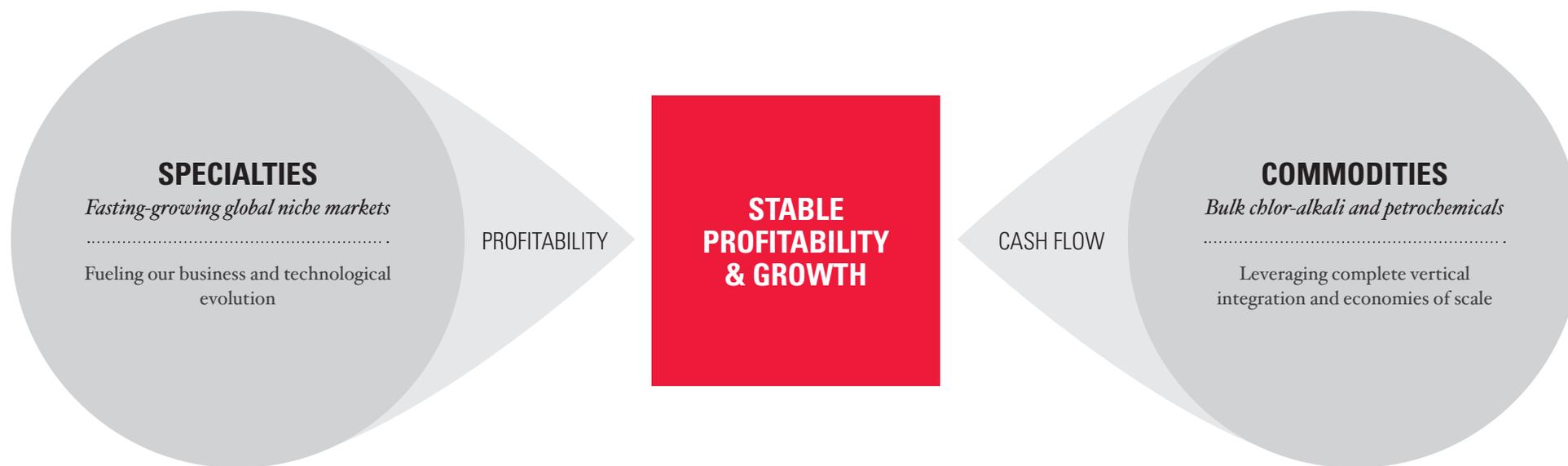
Financial Highlights for Fiscal Year 2013

Harsh business conditions throughout most of the fiscal year under review notwithstanding, a strong fourth quarter supported a solid performance.

	2012	2013	Percentage change
	Millions of Yen		
NET SALES	687,131	668,494	2.7% ▼
	Millions of Yen		
OPERATING INCOME	23,737	24,464	3.1% ▲
	Millions of Yen		
NET INCOME	9,379	16,867	79.8% ▲
	Millions of Yen		
FREE CASH FLOW	37,740	12,628	66.6% ▼
	Yen		
NET INCOME PER SHARE	15.67	28.17	79.8% ▲
	Yen		
DIVIDENDS PER SHARE	6	6	0%

Our Dual Commodities and Specialties Strategy

Our emphasis is to boost the contribution of the Specialty Group to improve our profitability and to keep us positioned for growth.

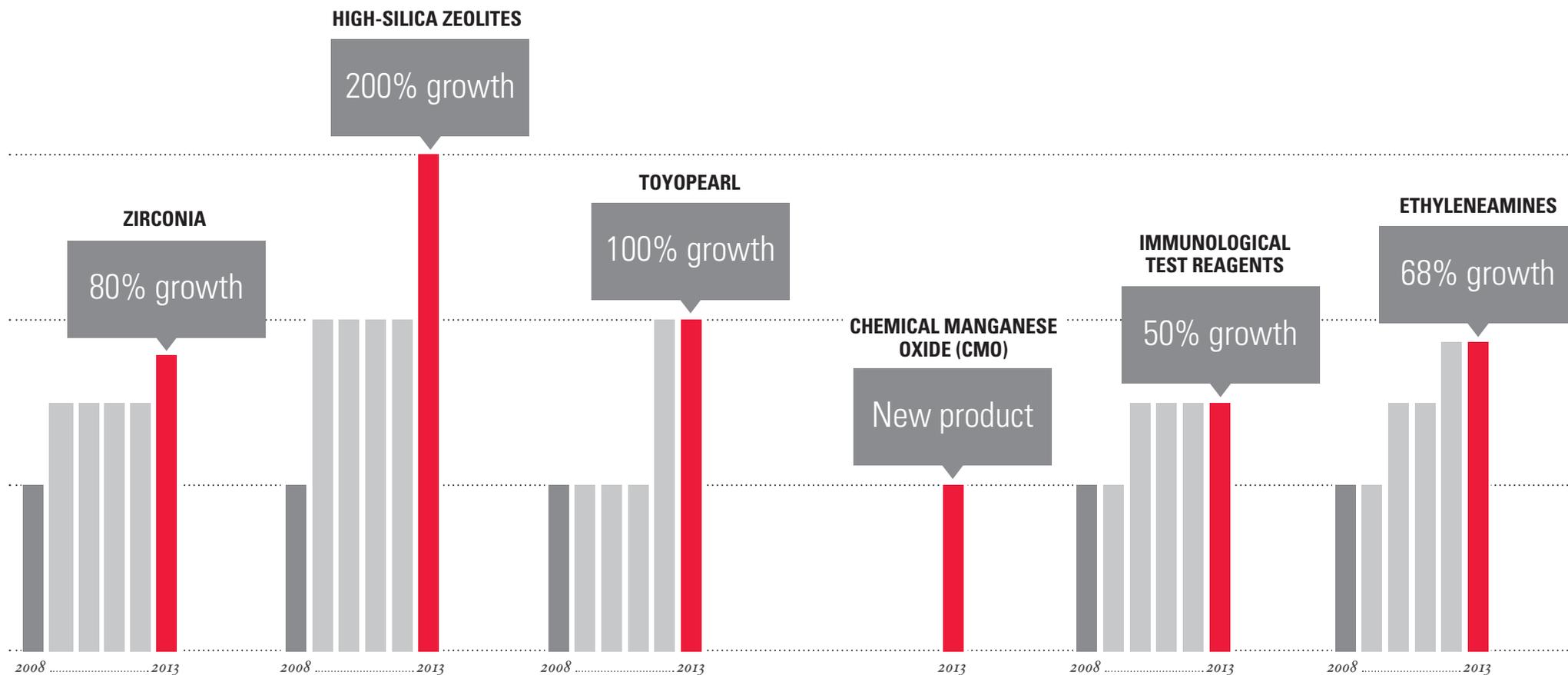


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Tosoh has designed a strategy to counteract the cyclicality of its chemicals business. By developing specialty products for niche markets, we provide ourselves with a buffer against downturns in the markets for our core commodities. The niche markets for our specialty products offer us the advantages of competitive superiority and of substantially higher profit margins. Commodities provide most of our cash flow, while specialties supply most of our profit.

Well Positioned in High-Growth Markets

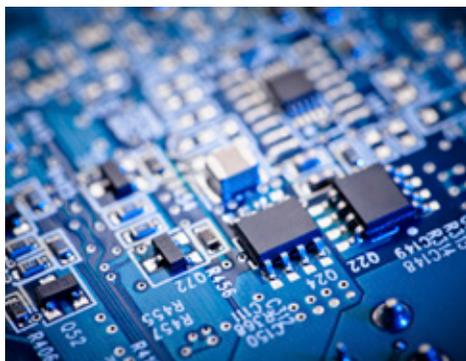
As part of its specialties business strategy, Tosoh has carefully positioned itself in and developed potential high-growth markets.



Note: Graphs indicate the percentage growth in Tosoh's production capacity since 2008

Positioning for the Future with the Products of Tomorrow

Our R&D programs support our specialties business strategy by focusing on materials and manufacturing technologies on the cutting edge of some of the fastest-evolving industries in the world.



ELECTRONIC MATERIALS

Supplying materials and technologies that enable the electronics industry to progress and evolve

- Electron hole transport materials for organic light-emitting diode (OLED) displays
- Heat-resistant resin substrates and wiring materials for flexible displays
- Chemical vapor deposition materials for next-generation semiconductors
- High-performance film materials for liquid crystal displays (LCDs)



BIOSCIENCE

Providing developed and developing economies with access to high-end diagnostics and biopharmaceutical technologies

- Advancements in separation media for antibody drugs
- Immunoassay reagents
- Genetic testing reagents
- Early-stage cancer testing technology



ENVIRONMENT & ENERGY

Devising next-generation materials and technologies to meet public opinion- and regulatory-driven shifts in the chemical industry

- Manganese oxide for rechargeable lithium-ion batteries (LIB) in automobiles
- High-silica zeolites (HSZ®) for processing automobile emissions using catalytic converters
- High-performance ethylene vinyl acetate (EVA) sealing film for solar cells
- Chelates for removing heavy metals from incinerator ash, wastewater, and soil



We have been particularly focused on Asia, the region that is clearly going to be the driver of global economic growth in the short to medium term. As a result ... we believe that we've solidly positioned Tosoh for growth.

.....
Kenichi Udagawa
President, Tosoh Corporation

POSITIONING OURSELVES FOR GROWTH

.....

Fiscal 2013, ended March 31, 2013, was a year of transition from recovery to growth for Tosoh Corporation.

Coming off an extremely difficult previous year, we faced in fiscal 2013 generally weak economies around the world, a strong yen, and the continuing impact of an accident at our main manufacturing complex.

By the end of the fiscal year, though, things seemed to be turning in our favor again. A weakening yen bolstered exports, and an improvement in the global economy and in economic sentiment in Japan supported our better performance. At the same time, we had recovered much of our vinyl chloride

monomer (VCM) supply capabilities. We also put the finishing touches on various expansion efforts to position Tosoh for growth.

The harsh business conditions throughout most of the fiscal year did take a toll on our consolidated net sales, which decreased 2.7% from a year earlier, to ¥668.5 billion (US\$7.1 billion). But our operating income rose 3.1%, to ¥24.5 billion (US\$260.1 million), and our net income surged 79.8%, to ¥16.9 billion (US\$179.3 million).

YEAR IN REVIEW

Tosoh navigated swings in business and economic conditions in fiscal 2013. At the start of the fiscal year, we moved to resurrect VCM production at the Nanyo Complex and scheduled downtime for regular maintenance at the Yokkaichi Complex. We reaped the benefits of our efforts in the year's second quarter chiefly when the No. 1 and No. 3 VCM Plants came back onstream at the Nanyo Complex and when we introduced a price increase for caustic soda, a major product.

Conditions, however, took a bad turn in the third quarter of the year as the global economy slowed and as political friction flared between Japan and China, disrupting our operations in that nation. On a positive note, we implemented price increases for more of our core products, including ethyleneamines and polyethylene resins.

Better export conditions and foreign currency gains in the fourth quarter helped us significantly improve our performance in all but consolidated net sales. In fact, we easily

surpassed the revised earnings forecasts that we'd released in November 2012, when conditions looked most bleak.

Also released publicly in fiscal 2013, just as the year was getting under way, in April 2012, was our *Nanyo Complex Accident Investigation Report*. That report represented the completion of our analysis of the accident at the Nanyo Complex's No. 2 VCM Plant in November 2011. It recommended safety reforms to prevent a repeat of such an incident, and we spent fiscal year 2013 implementing those reforms. We are pressing ahead with achieving the safety initiatives arising from this process. The ongoing pursuit of safe, accident-free workplaces and the rebuilding of trust with the communities surrounding our facilities remain top priorities throughout the Tosoh Group.

ESTABLISHING A POSITION FOR GROWTH

In recent years, Tosoh's strategies have revolved around two goals. That of building an organization that can earn a stable 5% profit margin on ordinary income under any business conditions, a margin achieved in fiscal 2013, and that of becoming a major global supplier. We have been particularly focused on Asia, the region that is clearly going to be the driver of global economic growth in the short to medium term. As a result of efforts aligned with those strategies, and outlined below, we believe that we've solidly positioned Tosoh for growth.

LEVERAGING THE STRENGTHS OF THE SPECIALTY GROUP

Tosoh has been reinforcing its profitability for many years through the dual commodities and specialties strategy outlined on page 6 of this report. That strategy emphasizes the Specialty Group's manufacture of primarily high-value-added products for the world's growth industries, including the semiconductor, consumer electronics, pharmaceutical, bioscience, automotive, and health care industries.

.....
Boosting high profit margin sales would represent a significant rise in profitability.
.....

The Specialty Group accounts for approximately 20% of Tosoh's consolidated net sales and for more than 36% of the company's operating income. Our strategic, medium-term aim is to increase the sales contribution of the Specialty Group to 30% or even 40%. Boosting high profit margin sales would represent a significant rise in profitability. It would also represent the most viable strategy for growth given the many challenges facing Tosoh's commodities business, characterized by the Chlor-alkali and Petrochemical Groups, in its domestic and export markets.

To achieve our objectives for the Specialty Group, we recently invested in expanding the production capacity of various of the group's products for high-demand growth markets. We highlight those products in the "Positioned for Growth" section of this report.

In fiscal 2013, we made further increases to our annual production capacities for zirconia and high-silica zeolites (HSZ) beyond the already substantial increases that we made in 2009. The additional zirconia capacity came onstream in January 2013, while the HSZ capacity increase became operational in March 2013.

Similarly, we took steps to ensure that we continue to capture a significant share of the automobile industry's growing demand for manganese oxide. Our subsidiary Tosoh Hyuga Corporation completed a 5,000-metric-ton chemical manganese oxide (CMO) plant in March 2013.

We also have sharply expanded the production capacities of several of the products of the Specialty Group's bioscience operations that are experiencing the fastest growth in demand. In fiscal 2013, we achieved a doubling of our production of Toyopearl, a separation media in high demand in the fast-growing global biopharmaceutical industry. In fiscal 2012, Tosoh expanded reagent production for its automated immunoassay (AIA) systems. We are a leader in AIA systems in Japan, and we are preparing to ride a wave of growth in

demand for these systems in the massive global bioscience market.

STRENGTHENING OUR PROFITABILITY

Ensuring the profitability of the Tosoh Group's operations calls for ongoing cost-reduction programs, process engineering, efficiency enhancements, and other reforms. Our two most pressing tasks are restoring the profitability of our wholly owned subsidiary Nippon Polyurethane Industry Co., Ltd. (NPU), and of our ethyleneamine operations.

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To achieve our objectives for the Specialty Group, we recently invested in expanding the production capacity of various of the group's products for high-demand growth markets.
.....

NPU has made significant progress in reducing its losses over the past few years. We decided in fiscal 2013, however, that greater efficiencies could be achieved if NPU was fully integrated with the Tosoh Group. So we converted NPU to a wholly owned subsidiary in July 2012 by acquiring the remaining approximately 20% of its shares.

We expect integration to reduce NPU's fixed costs significantly over the next three to five

years. We will amalgamate NPU's human and other resources for such functions as logistics and technical analysis into the service subsidiaries of the Tosoh Group. A cost-reduction program for NPU's variable costs, meanwhile, has already yielded substantial benefits and is expected to reduce variable costs a further ¥4.2 billion starting in fiscal 2014.

.....
We took steps to ensure that we continue to capture a significant share of the automobile industry's growing demand for manganese oxide.
.....

All of which leads us to believe that NPU will break even in fiscal 2014 and then move steadily into the black. Over the longer term, NPU's methylene diphenyl diisocyanate (MDI) operations are well positioned in the potentially high-growth polyurethane market in Asia.

The ethyleneamine market suffers from oversupply, particularly of bulk ethylenediamine (EDA). This and a strong yen; economic downturns, especially poor economic conditions in Europe; and our shift of product into the oversupplied Asian market have pushed our ethyleneamine operations into the red. In response, we have prioritized the development of markets for our high molecular weight amines.

So-called high amine product lines are more competitive and profitable than low amine products, such as EDA, because of their added-value content. With economic and currency rate conditions improving, we are confident that Tosoh will be able to reap the benefits of its recent strategic production capacity expansion for amines. We are a leading supplier of ethyleneamines in Asia, and we aim to become the leading global supplier of high amines.

REMAINING A MAJOR SUPPLIER TO ASIA

Our substantial capital investments in expanding and upgrading our operations extend beyond NPU and ethyleneamines. We also have invested heavily in such other of our operations as our chlor-alkali operations to position Tosoh as a comprehensive supplier to the high-growth markets of Asia. We likewise have strengthened our vinyl isocyanate chain, the largest of its kind in Asia, to enable us to provide an array of much-needed chemicals to Asian markets.

Our strategies for our core VCM and polyvinyl chloride (PVC) businesses were disrupted by the unfortunate VCM plant accident in 2011. But our decision to expand the production capacity of the No. 3 VCM Plant at our Nanyo Complex by 200,000 metric tons, bringing our total VCM capacity to 1.1 million metric tons, is facilitating a return to those strategies. We see light at the end of the tunnel.

When this additional VCM capacity comes onstream in October 2014, we will be able to supply VCM as a raw material to fulfill the complete needs of our overseas PVC subsidiaries and of our Asian customers. Our new capacity, moreover, will ensure the full utilization of our recent PVC production capacity expansion at our Indonesian subsidiary P.T. Standard Toyo Polymer and any other future expansions under review. The added capacity will allow us to take advantage of the tight demand-supply gap for PVC in Indonesia.

Other than its PVC manufacturing bases, Tosoh has not had a significant on-the-ground presence in Asia. We're changing that under our new objective of becoming a major supplier to Asia. As opportunities arise, we are establishing operations and generally expanding our networks throughout the region.

.....
Our substantial capital investments in expanding and upgrading our operations extend beyond NPU and ethyleneamines.
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Recent additions include Tosoh SMD Shanghai Co., Ltd., and Tosoh Bioscience Shanghai Co., Ltd. And our subsidiary Organo Corporation has established a sales subsidiary in Vietnam and an R&D center in China over the past few

years and set up a base in Indonesia through a merger and acquisition (M&A).

FOCUSING CAPITAL INVESTMENT ON THE SPECIALTY GROUP

In the short to medium term, we will pursue our emphasis on building the profitability of Tosoh by expanding our Specialty Group operations. This strategy makes sense from the perspective of operational profitability. Capital investment in our vinyl isocyanate chain requires large sums compared with what it costs to invest in expanding our specialty operations.

In this vein, we chose early in fiscal 2014, the year under way, to expand our HSZ production capacity nearly 50% because the HSZ demand-supply gap has already tightened considerably. Our construction of expanded HSZ production facilities started in May 2013 and will be completed in September 2014.

Another avenue of growth that we are constantly exploring is M&A. We seek opportunities to utilize M&A as a tool for positioning our specialties operations in growth markets provided that the M&A doesn't strain our balance sheet.

EMERGING AS A TECHNOLOGICAL LEADER IN THE MARKETS OF THE FUTURE

An essential aspect of our strategy to expand our Specialty Group operations is our commitment through our R&D programs to constantly

break technological ground in supporting the evolution of our customers. As highlighted elsewhere in this report, Tosoh is positioned in many leading markets in electronics, bioscience, the environment, and energy.

.....
We are determined ... to stay the course of our dual business strategy, as it grants us the flexibility to adjust quickly to movements in our markets.
.....

We plan to ramp up our R&D efforts to provide opportunities for the Specialty Group and other of our business groups to expand into peripheral areas and to launch new operations. The potential for Tosoh to contribute as it has in so many ways in the past to new business fronts and to progress continues to motivate us in management.

PERSPECTIVES ON THE YEAR AHEAD

In fiscal 2014, we expect the Japanese economy to continue to benefit from the bullish sentiment awakened by aggressive monetary and other policies taken by the Japanese government to address the country's economic issues. Certainly, the weakening of the yen against other currencies and a recovery in the global economy have improved export condi-

tions for Tosoh, and we do not discount the risk that these trends will not be sustained.

Overall, though, we are optimistic, albeit cautiously, about business conditions in fiscal 2014. In light of the clear risks, we have set our performance forecasts somewhat on the conservative side. We also intend to remain committed to ongoing cost cutting and to other measures to improve profitability.

We are determined, moreover, to stay the course of our dual business strategy, as it grants us the flexibility to adjust quickly to movements in our markets. We believe, meanwhile, that Tosoh is well positioned to take advantage of growth opportunities in Asia and around the world. This will further our mission of delivering on our promise of profitability and investor value through Tosoh quality and the chemistry of innovation.

We look forward to your continued and much appreciated support in fiscal 2014.



Kenichi Udagawa
President



Paul Duin
Tosoh Europe B.V. (Amsterdam, The Netherlands)
Product Manager, Ceramics Department



YTTRIA-STABILIZED ZIRCONIA

Tosoh's yttria-stabilized zirconia (YSZ) is superior to other machinable materials in most respects. It therefore has unlimited potential in the manufacturing field.

Most ceramics are hard but brittle, making them unsuitable for products that have to endure wear and tear or sudden shocks. YSZ overcomes this limitation through a technological breakthrough that produces a microcrystalline grain structure. As a result, YSZ has high strength and wear resistance, flexibility, and a useful life far beyond that of average ceramics and is commonly referred to as ceramic steel.

Add heat-insulating properties and oxygen-ion conductivity, and YSZ possesses all the properties and potential for application in a wide range of industrial and commercial fields. It is also used in consumer goods, such as luxury watches and ceramic knives, and in dental materials because of its natural beauty and soft texture.

Paul Duin graduated with a degree in chemical engineering and joined Tosoh Europe B.V. in 1999 to sell advanced ceramics. He is typical of Tosoh's corporate culture of long-term service and results. Duin is striving for a sales record that will represent an eightfold increase in turnover compared with the year he joined the company.



Shota Yanagi joined Tosoh in 2007 and has six years of experience as a plant operator. Tosoh has high expectations of him as a plant operator specializing in zirconia manufacturing.

The grinding media and dental markets generate the bulk of YSZ demand. Demand from the dental market has expanded sharply. New grades of YSZ are finding application in huge untapped aspects of the dental markets in Japan, the United States, and Europe.

Demand, meanwhile, from the consumer goods industry is likewise growing strongly. Manufacturers are coming up with new applications for YSZ. Smartphone makers in particular are looking at YSZ as decorative material.

To meet soaring demand for its YSZ, Tosoh moved to a two-plant production organization. The company built a new plant at its Yokkaichi Complex in 2009 to supplement the plant at the Nanyo Complex. Having dual plants also assures customers of stable supplies. Should something befall one plant, the other could take up the slack. In 2012, Tosoh again boosted its YSZ production capacity, about 20%, by expanding the Nanyo Complex plant.

New grades of YSZ are finding application in huge untapped aspects of the dental markets in Japan, the United States, and Europe.

Tosoh built the world's first commercial zirconia plant in 1983. Since that time, YSZ has been increasingly used in the manufacture of industrial parts and components for its strength, resistance to rust, corrosion, and chemical reactions; its exponentially greater heat-insulation properties than metals; and its machinability. YSZ, in fact, has become the world standard for fiber-optic connectors. It is also a high-performance grinding media, with beads as small as 0.03 millimeters.

The dental industry values YSZ for its strength, durability, natural look, and chemical

inertness. These properties make it ideal for use as artificial teeth and crowns and in bridges and other substructures. To further stimulate demand in this market, Tosoh recently introduced its Zpex® line. The line includes a highly translucent YSZ and Zpex Yellow, a colored YSZ that enables dental technicians to better match tooth coloring.

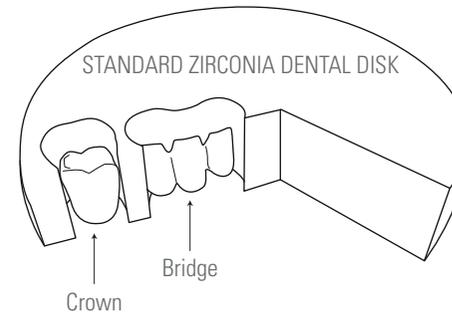
Calls for improved dental care are rising around the world, so the dental industry represents a large growth market for Tosoh's YSZ. The intention to sell the product to dental markets overseas figured prominently in the company's recent expansion of its YSZ production capacity.

ZIRCONIA IN DENTAL MATERIALS

Sintered zirconia is hard and therefore difficult to fabricate. For that reason, zirconia crowns and bridge restorations are made from a pre-sintered zirconia disk, which shrinks only about 21%, using a computer-aided design and computer-aided manufacturing (CAD/CAM) system. The fabricated zirconia dental appliance is then sintered to ensure its hardness.

In CAD/CAM fabrication, the standard zirconia disk has a diameter of 98 millimeters and a thickness of 10 millimeters to 25 millimeters. This is sufficient to fabricate a full set of teeth.

Translucent grades of zirconia are popular for dental work on front teeth, which require superior cosmetic qualities. Worldwide, the dental industry values Tosoh's Zpex line of translucent zirconia for CAD/CAM system disks. The Zpex line features superior cosmetic qualities, high durability, and predictable shrinkage.



A zirconia disk with a diameter of 98 millimeters and a thickness of 10 millimeters to 25 millimeters can be used to fabricate a full set of teeth.



Miki Yamashita
Tosoh Corporation (Shunan, Japan)
Chemical Manganese Project Team Construction Group



CHEMICAL MANGANESE OXIDE AND ELECTROLYTIC MANGANESE DIOXIDE

Tosoh's raw materials for battery cathodes are essential for the shift to hybrid and electric vehicles.

Tosoh is the world's largest manufacturer and seller of electrolytic manganese dioxide (EMD), which is generally used to manufacture cathodes for dry cell batteries. Recently, EMD has also come into use as a precursor for the manufacture of lithium manganese oxide (LMO). LMO is employed to produce materials for the cathodes of the lithium-ion batteries (LIB) for electric and hybrid cars.

Tosoh's development of chemical manganese oxide (CMO) production technology increases its manganese oxide production capacity. This underpins Tosoh's ability to meet the growing demand for manganese oxide while continuing to supply it to the traditional dry cell battery market. The high quality and rigorous control of specifications made possible by Tosoh's production technology give the company competitive advantages in the market for manganese oxide.

Miki Yamashita is a career researcher who joined Tosoh in 2009. Her main areas of responsibility are the synthesis of CMO and new materials on a laboratory scale. Yamashita also is involved with LMO synthesis and the assessment of lithium-ion battery properties.



Takenori Kurogi is a recent mid-career recruit. He worked at a major Japanese company for 12 years before joining Tosoh in 2012. Tosoh utilizes Kurogi's considerable job experience in an administrative capacity.

The market for electric and hybrid cars is expanding amid heightened awareness of environmental and energy issues, such as global warming and escalating emission standards. Consequently, global requirements for LMO are expected to expand sevenfold by 2015 and to result in a similar demand curve for manganese oxide.

Tosoh has the largest EMD production capacity in the world and supplies approximately 20% of the world market. Our new CMO production technology increases our capacity to supply our targeted markets. It also enables us to produce material particularly suited for the production of LMO for the lithium-ion batteries in automobiles.

Compared, moreover, with our traditional method of making manganese oxide, our new technology is highly energy efficient, requiring neither electrolytic cells nor pulverizers. In addition, it allows us to finely control

substances, to ensure uniform particle size and to almost completely remove impurities. This enables us to flexibly meet customer needs and to improve production efficiency and overall quality.

Tosoh has the largest EMD production capacity in the world and supplies approximately 20% of the world market.

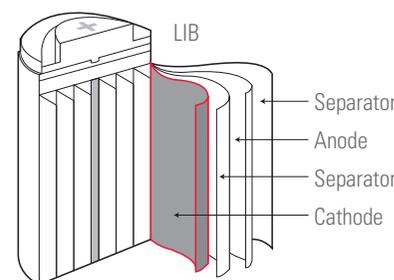
Our subsidiary Tosoh Hyuga Corporation completed construction of the Tosoh Group's first CMO plant in March 2013. The new plant adds 5,000 metric tons to Tosoh Hyuga's 33,000-metric-ton annual production capacity of EMD. The subsidiary is the sole producer of EMD in Japan. Tosoh's other EMD production facilities are

overseas, at Tosoh Hellas A.I.C., in Greece. Tosoh Hellas's annual EMD production capacity of 26,000 metric tons makes it the largest manufacturer of EMD in Europe.

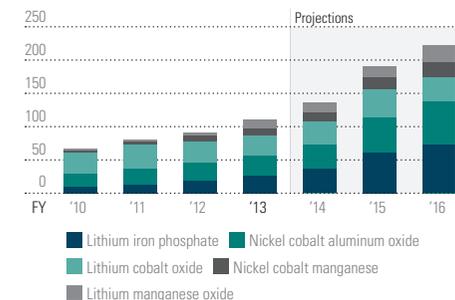
Rechargeable lithium-ion batteries are not only used in electric and hybrid cars. They also are employed as electric power storage batteries in emergency systems and in such consumer electronics products as personal computers, cell phones, portable compact music players, digital cameras, and electric tools.

SUPPLYING MATERIALS FOR THE HYBRID AND ELECTRIC VEHICLES OF THE WORLD

CMO and EMD are used to produce the LMO and the nickel cobalt manganese (NCM) used in the cathodes of the rechargeable lithium-ion batteries that power the hybrid and electric vehicles that the world is shifting to. When the particle size of the LMO applied to the cathode in the manufacture of lithium-ion batteries is small and uniform, improvement in output and battery life is achieved. Tosoh's CMO particles are precisely optimal in size and shape for the manufacture of superior LMO for use in hybrid and electric vehicle lithium-ion batteries.



LIB Market Growth (Thousands of Metric Tons)



Positioned for Growth



Keita Ito
Tosoh Corporation, Nanyo Complex (Shunan, Japan)
Staff Member, Specialty Materials Department



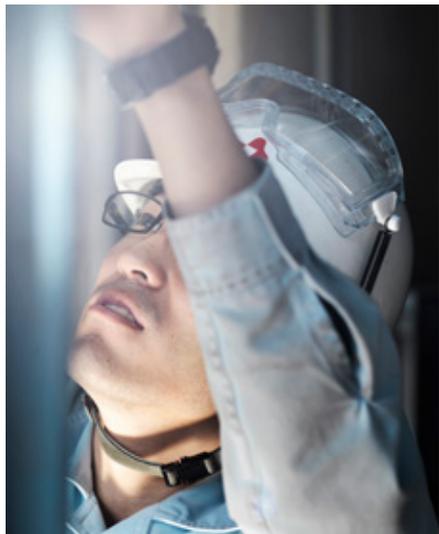
ZEOLITES

Synthetic zeolites are stable and nonflammable solids customizable to meet specific adsorption or catalytic needs in industrial and environmental processes.

The crystalline structures of synthetic zeolites feature an open, uniform shape of negatively charged stacked alumina and silica tetrahedra. The negative charge is neutralized by cations, such as potassium, sodium, or calcium, that are embedded in the synthetic zeolites' crystalline structure. At the research level, there are more than 200 different known zeolite crystalline structures; however, only about 15 have been commercialized.

Zeolites can act as molecular sieves. They trap molecules that are smaller than their pore size while ignoring larger molecules. Significantly, the pore size of zeolites can be modified by ion exchange to meet a specific adsorption target. Their catalytic and other properties likewise can be changed, by controlling the silica to alumina ratio. High-silica zeolites (HSZ) generally have a silica to alumina ratio of five or more, which gives them superior thermal stability and catalytic properties.

Keita Ito began his career at Tosoh in 2009. His job as a staff member at the Specialty Materials Department of Nanyo Complex includes contributing to increased production capacity and the development of new grades of zeolites.



Ito concentrates his efforts on the HSZ line of high-performance zeolites used primarily for catalysts and adsorbents.

Tosoh manufactures two types of zeolites, Zeolum® and HSZ. In general, Zeolum is used to remove water and impurities in the manufacture of ethylene, chlorofluorocarbons, and other chemicals. In addition, it adsorbs carbon dioxide (CO₂) in cryogenic distillation processes and removes sulfur from liquefied petroleum gas (LPG). Other uses include its prevention of cloudiness in multilayer glass, its removal of trace moisture from urethane paints and sealants, its control of moisture in pharmaceutical and food packaging, and its cleaning of exhaust gas.

More specifically, the chemical industry uses Zeolum, Tosoh's line of zeolite molecular sieves, extensively in processing gases for drying, purification, and separation purposes. Zeolum NSA is a lithium, LSX-type zeolite that offers heightened aluminum content for superior nitrogen adsorption. Zeolum NSA is therefore especially suitable for use in oxygen PSA systems.

Tosoh's HSZ line includes high-performance catalysts and adsorbents valued for their high thermal and acid stability. They find application as petroleum refining catalysts in hydrocracking, isomerization, and dewaxing processes and as petrochemical catalysts in alkylation and isomerization processes. HSZ also is used as an adsorbent of harmful volatile organic compounds (VOCs).

HSZ is most in demand as a material for the catalyst in the catalytic converters of automobile exhaust systems. Calls for the product are surging as countries introduce stricter environmental laws and emission standards. Japan raised the bar on emissions in 2009, the United States implemented its US10 emissions standards in 2010, and Europe initiated its Euro VI standards in 2013 for enforcement in 2014.

Tosoh seeks to capture a major share of this growing market and has been raising its

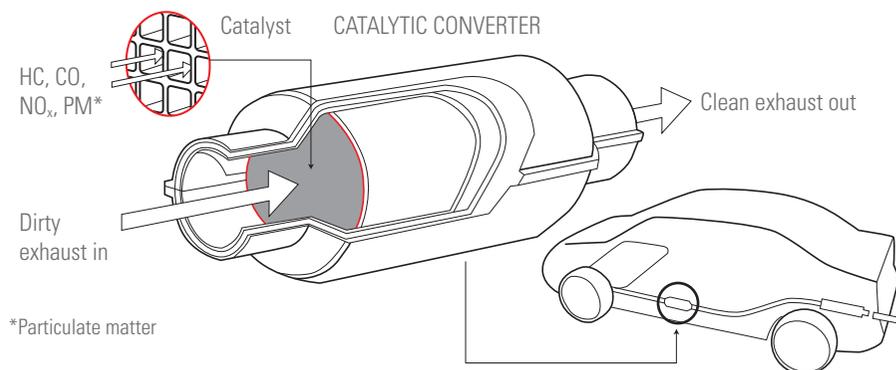
HSZ is most in demand as a material for the catalyst in the catalytic converters of automobile exhaust systems.

HSZ production capacity in stages in line with tougher emission standards in its main markets. We doubled our HSZ production capacity in 2009 by building a zeolite plant at our Yokkaichi Complex to supplement our original plant at the Nanyo Complex. And in March 2013, we completed an expansion to the Yokkaichi Complex plant that increases our overall zeolite production 50%.

TOSOH ZEOLITES CLEAN EMISSION GASES IN CATALYTIC CONVERTERS

Automobile emission standards place limits on how much carbon oxide (CO), hydrocarbon (HC), nitrogen oxide (NO_x), and particulate matter (PM) vehicles may emit. There is a strong trend toward stricter regulations on emissions, particularly for diesel vehicles.

High-silica zeolites (HSZ) are used in reduction catalysts that are effective in meeting increasingly severe emission standards. Generally, HSZ and other materials coat a catalytic converter's honeycomb carrier, which is made of cordierite or some other ceramic.





Dr. Regina Holzhauser
Tosoh Bioscience GmbH (Stuttgart, Germany)
Director of Sales and Marketing



SEPARATION MEDIA

Toyopearl separation media consists of high-performance resins ideally suited for industrial-scale separation and purification processes.

Toyopearl is a packing material for liquid chromatography. It consists of hydrophilic, cross-linked polymer spheres ranging in particle diameter from 20 micrometers to 150 micrometers. It can be applied to large columns because of its semirigid backbone structure and features superior mechanical and chemical stability and a high adsorption capacity. These properties render Toyopearl suitable for the industrial-scale separation and purification processes commonly used by pharmaceutical, food product, and bioscience companies.

Toyopearl resins are available in a range of particle sizes for the capture, intermediate, or polishing steps of chromatography. They also are available for the most common modes of liquid chromatography: size exclusion (SEC); hydrophobic interaction (HIC); ion-exchange (IEC); and affinity chromatography (AFC) for biomolecules.

Dr. Regina Holzhauser joined Tosoh Bioscience GmbH in 2006 as its director of sales and marketing. She took over the commercial leadership of Tosoh Bioscience's separation business for process media, columns, and GPC instruments in European and some affiliated countries. Dr. Holzhauser earned a doctorate in analytical biochemistry in 1988 and worked internationally in chromatography and analytical instruments before she joined Tosoh Bioscience.

Over the past two decades, Toyopearl separation media has become increasingly popular within the biopharmaceutical industry. That industry is rapidly spreading beyond such of the developed nations as Europe, Japan, and the United States to the developing countries, including China, India, and other nations. And biosimilar molecules development has resulted in a larger market and a sharp increase in demand for Toyopearl.

Tosoh therefore decided in 2010 to double its Nanyo Complex's Toyopearl production capacity. The capacity expansion was completed in April 2012 and ensures that Tosoh can comfortably achieve its immediate goal of supplying approximately 10% of the global separation media market for biomolecules.

Tosoh accompanied its expansion of Toyopearl production capacity with the addition to its Toyopearl lineup of new purification processes products to broaden its targeted markets. The

Toyopearl GigaCap series, HIC 600 series, and AF-rProtein A-650F are special grades of Toyopearl for antibody drug purification, the area of greatest demand for separation media in the biopharmaceutical products industry.

Among the advantages of Tosoh's comprehensive bioscience operations is that they employ the same chemistry used in making production-scale Toyopearl resins to produce polymeric TSKgel, PW-type analytical HPLC columns. Having the same chromatographic selectivity allows for a seamless scale-up where an analytical method developed on a TSKgel column can be easily scaled to the corresponding bulk Toyopearl resin for manufacturing use, saving valuable development time.

A comprehensive selection of such compatible products enables various synergies in the analysis, isolation, and purification of biomolecules. Tosoh's portfolio of over 500 specialty items encompassing all common



Left: Yuta Sugimura's nine years of experience since joining Tosoh in 2005 have provided him with a strong belief in the importance of clean operations.

Right: Gen Nakamura began working at Tosoh a year after Sugimura joined the company. He recognizes that while the workload may be strenuous the experience is fulfilling.

modes of liquid chromatography can help purify virtually any protein, peptide, enzyme, nucleic acid, antibiotic, or small molecule.

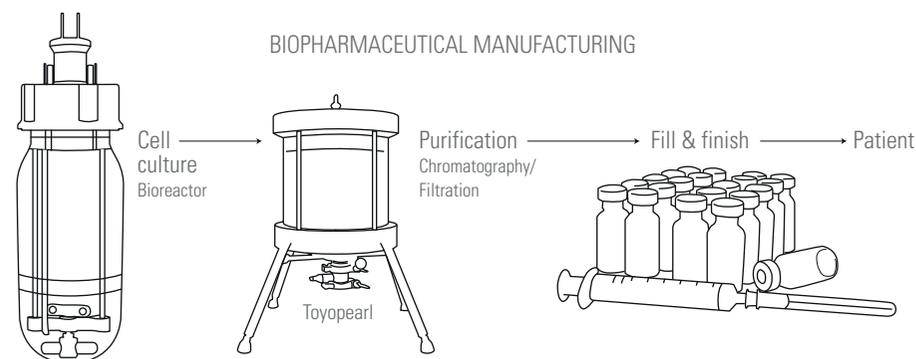
The company also offers strong technical support services in major markets.

TOYOPEARL AND THE BIOPHARMACEUTICAL MANUFACTURING PROCESS

Chromatography is an integral part of every biopharmaceutical manufacturing process, because biotherapeutic production is often based on cell cultures. So-called recombinant peptides or proteins need to be purified of residual impurities, such as host cell proteins, DNA, endotoxin, and viruses.

Typical purification schemes combine filtration and chromatographic steps that allow the separation of target molecules from impurities. They exploit physical properties, such as size, charge, hydrophobicity, or bio-specific interaction.

Toyopearl resins can be applied at various stages of the purification process in what is referred to as downstream processing. Examples of biotherapeutics purified with the help of Toyopearl are monoclonal antibodies; interferon; insulin; erythropoietin (EPO); growth factors; and blood plasma-derived proteins, such as Factor VIII.





Kazutoyo Kawahara
Tosoh Europe B.V. (Amsterdam, The Netherlands)
General Manager



VINYL CHLORIDE MONOMER

Vinyl chloride monomer (VCM) is a clear gas chemical intermediate chiefly used in the production of polyvinyl chloride (PVC), photographed above. PVC is one of the world's major construction materials.

VCM is a chemical intermediate and lies at the end of a chain of chemical processes for producing PVC, the third most widely used plastic in the world. VCM also plays an important role in maintaining a high operating rate for Tosoh's fully integrated vinyl isocyanate chain, which produces a myriad of products. A high rate of operation ensures an adequate supply of core raw materials and helps reduce costs.

Kazutoyo Kawahara began his career with Tosoh Corporation in 1990 after majoring in law. Through his work in Corporate Strategy and Planning, he was involved with Tosoh's PVC-related subsidiaries in Southeast Asia. Kawahara then took over Tosoh's global marketing for the Chlor-Alkali Division before becoming the general manager of Tosoh Europe B.V.

Tosoh supplies most of its VCM to its network of PVC-related subsidiaries in Japan, China, Indonesia, and the Philippines. We also, however, supply a significant amount of VCM to companies outside the Tosoh Group, in Japan and abroad.

Before the accident at the No. 2 VCM Plant at the Nanyo Complex in 2011, Tosoh had an annual production capacity for VCM of 1.45 million metric tons. We supplied approximately 1.1 million metric tons of that amount to our PVC subsidiaries and affiliates and sold the rest on the open market. When the accident occurred, we were in the final stages of planning expansions to our PVC production

With the sharp deterioration in the yen, we are ideally positioned for profitable growth in our VCM and PVC operations.

facilities in China and the Philippines that would require us to supply more of our VCM production to our network. We also were in the process of clearing a bottleneck in VCM production at the Nanyo Complex.

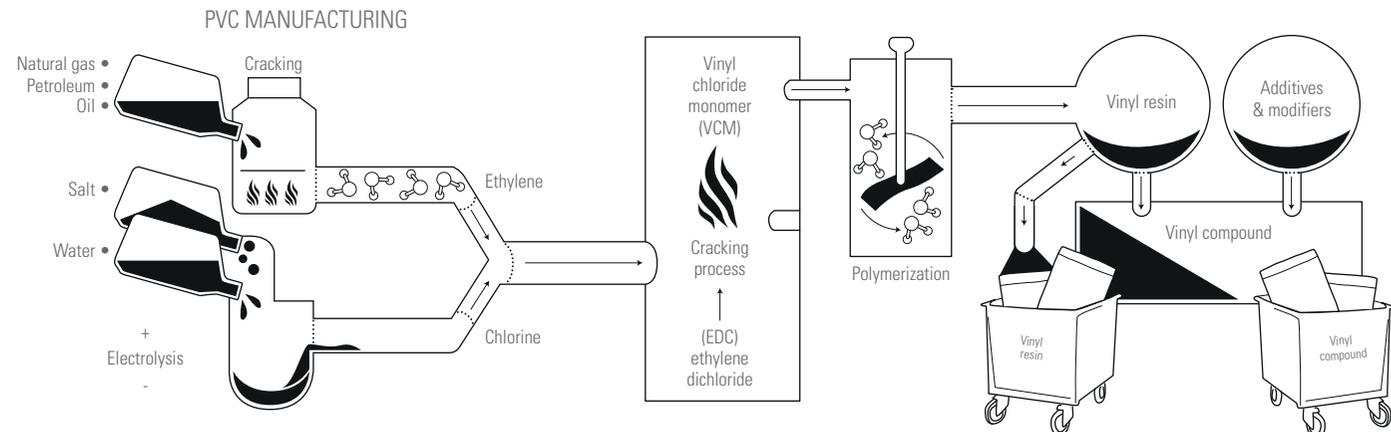
After the accident, we implemented a strict process of ensuring the safety of our other operations and restored production at the No. 1 and No. 3 VCM Plants over about the next six months. We decided not to restart the No. 2 Plant and instead chose to expand the production capacity of the No. 3 VCM Plant by 200,000 metric tons a year. That expansion is scheduled for completion in October 2014. It will raise our total yearly VCM production capacity to 1.1 million metric tons.

Tosoh's main concern in its VCM operations is the stable supply of cost-competitive product to its PVC manufacturing network. We do, though, continue to sell on the open

market as well. The strong yen and the growing use in China of the carbide method to produce PVC have forced us to look to the Japanese market in recent years for profitable external sales. We have, however, also been looking at opportunities overseas, particularly in Indonesia and India, utilizing our overseas PVC production bases. With the sharp deterioration in the yen, we are ideally positioned for profitable growth in our VCM and PVC operations.

MANUFACTURING ONE OF THE MOST POPULAR PLASTICS IN THE WORLD

Ethylene produced by a naphtha cracker is reacted with chlorine obtained from the electrolysis of salt to produce ethylene dichloride (EDC), which is then converted into VCM using Tosoh's proprietary oxychlorination process. Vinyl chloride liquid is fed to polymerization reactors where it is converted from a monomer to a polymer. The final product of the polymerization process is PVC, in either flake or pellet form. Tens of billions of pounds of PVC are sold on the global market each year.





Hideki Takada
Tosoh Corporation (Tokyo, Japan)
Assistant Manager, Polymers Division, Functional Polymer Group Leader



CHLOROSULPHONATED POLYETHYLENE

Toso-CSM, or chlorosulphonated polyethylene, is a specialty-grade synthetic rubber with superior resistance to abrasion and to temperature extremes. It has applications in industrial and consumer markets.

Toso-CSM is a chlorosulphonated polyethylene. CSM, a functional polymer, is resistant to ozone, weather, oil, chemicals, and ultraviolet light. It can also easily be pigmented to produce brilliant colors, opening up a wide range of applications in the industrial and consumer markets.

CSM is popularly used in automobile and industrial hoses, adhesives and coatings, escalator railings, linings for electrical and mechanical products, roofing materials, and other industrial components and products. In the consumer market, CSM can be found in inflatable boats, folding kayaks, life jackets, windbreakers, and raincoats.

Hideki Takada began his career at Tosoh Corporation in 1992. His first assignment was in Tokyo, to chloroprene rubber sales. In 2003, he was transferred abroad to oversee the rubber business at Tosoh Europe B.V. Takada returned to Japan in 2009 to become the assistant manager of the Polymers Division and the leader of its Functional Polymer Group at headquarters.

CSM has been in high demand in the industrial market for many years. It is preferred for its superiority to rubber and for its many advantages over conventional synthetic rubber. Supply, however, has been tight because of high production costs and technological and other issues that limit the number of manufacturers capable of producing CSM.

The CSM demand-supply balance was seriously disrupted in 2009 when the only other major producer besides Tosoh announced its withdrawal from the business. Tosoh stepped into the vacuum by adding a CSM production line at its Nanyo Complex, raising its annual production capacity to 8,500 metric tons. This positioned us as the major supplier in the market.

Since the completion of that expansion in 2010, the company's production lines have run at full capacity to support global demand. Tosoh holds an approximately 70% share of

the world market, and approximately 80% of Tosoh's CSM production is exported.

Worldwide demand for CSM continues to rise, particularly in Asia. So Tosoh opted to boost its production capacity by debottlenecking its CSM operations. We finished this process in June 2012, raising our CSM production capacity 1,000 metric tons, to 9,500 metric tons. Global CSM high-end application demand is estimated to be 10,000 metric tons. Tosoh will consider further production capacity expansion if favorable conditions present themselves.

Other companies have entered the CSM market, but Tosoh remains the market leader and sole supplier of high-end CSM. We produce diverse Toso-CSM by varying chlorination and chlorosulphonation and the polyethylene (PE) polymer. We also manufacture an alkylated chlorosulphonated PE under the extos brand name. Extos combines excellent dynamic and



Left: Takehiko Yamamoto is a senior plant operator with a reputation for being strict but fair in his responsibilities for training new recruits.

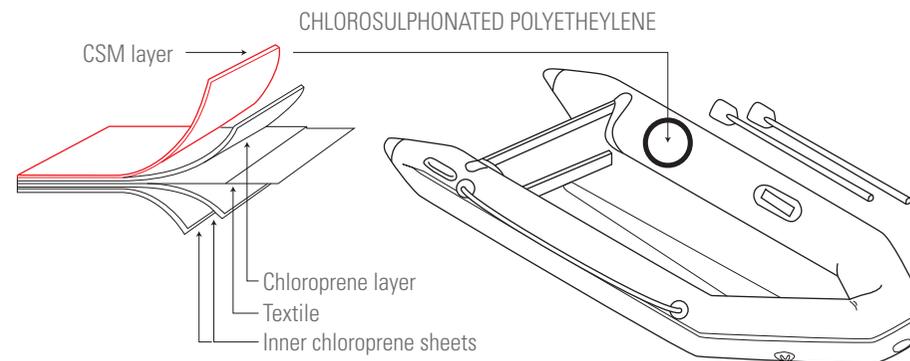
Right: Tadashi Tamano, who is featured on this report's cover, shares Yamamoto's passion for motivating fellow employees to greater heights.

low-temperature properties with the features of conventional Toso-CSM and is suited for such dynamic applications as automotive belts and boots.

Tosoh continues to pursue technology developments to improve its CSM grades, to keep ahead of the competition in CSM, and to explore new applications for its CSM products.

THE VARIED USES OF TOSOH'S CHLOROSULPHONATED POLYETHYLENE

Toso-CSM is produced from polyethylene by chlorination and chlorosulphonation with chlorine and sulphur dioxide gas. Various types of Toso-CSM are obtained according to the degree of chlorination and chlorosulphonation and the sort of polyethylene polymer used. CSM, or chlorosulphonated polyethylene, is popularly used in automobile and industrial hoses, adhesives and coatings, escalator railings, linings for electrical and mechanical products, roofing materials, and industrial components.





POINTING THE WAY TO THE FUTURE AND LAYING THE GROUNDWORK FOR GROWTH

Research and development underpin Tosoh's chemistry of innovation.

At Tosoh, we are constantly pushing the technological envelope with unstinting research and development (R&D). We do so because of the ever-quicken pace of technological growth and progress in contemporary lifestyles. We do so because of a sense of responsibility to lead the way in providing new and better products for our customers. We do so because we know that this is also the best way to ensure the growth and evolution of the Tosoh Group.

Our R&D team consists of about 870 people at work on product and technology improvements and on laying the groundwork for future business. In fiscal 2013, we invested ¥12.2 billion (US\$129.7 million) in our R&D programs.

Those programs strengthen our core businesses and enhance our ability to generate tomorrow's products and to secure our business growth. To stay on the leading edge in our fields of expertise, we bolster our independent research through joint research with external research facilities, at universities and other educational institutions and at public research laboratories. We encourage collaboration to maximize organizational resources and to generate synergies.

Our R&D oversight organization comprises various committees responsible for distinct research themes. They also drive the commercialization of emergent products and technologies. To ensure balanced oversight, representatives from our business units, laboratories, and strategy divisions sit on these committees. The committees determine the most promising strategies for Tosoh's businesses while considering the Tosoh Group's social responsibilities and environmental policies.

Our R&D team consists of about 870 people at work on product and technology improvements and on laying the groundwork for future business. In fiscal 2013, we invested ¥12.2 billion (US\$129.7 million) in our R&D programs.

ORGANIZATIONAL STRUCTURE

Our R&D activities revolve around six facilities in Japan. They include the Tokyo Research Center, the Yokkaichi Research Laboratory, the Nanyo Research Laboratory,



the Technology Center, the R&D Center of our subsidiary Organo Corporation, and the Central Research Laboratory of our subsidiary Nippon Polyurethane Industry (NPU).

The Tokyo Research Center focuses on advanced materials for electronics, health care, and other leading-edge sectors. Researchers at the Yokkaichi Research Laboratory concentrate on petrochemicals and specialty polymers. At the Nanyo Research Laboratory, researchers develop specialty technologies for applications in environmental protection and in inorganic, organic, and elastomeric materials. NPU's Central Research Laboratory undertakes research in urethane raw materials in our chlor-alkali operations, while Organo's R&D Center is responsible for research on the water

treatment and related technologies of our engineering operations.

Our Technology Center, meanwhile, contributes engineering expertise to transform R&D ideas into production technologies. It is also responsible for designing production facilities for those technologies.

R&D EMPHASIS BY PRODUCT GROUP

SPECIALTY GROUP

Electronics: silica glass, materials for organic light-emitting diodes, chemical vapor deposition and atomic layer deposition precursors for semiconductor devices, transparent conductive materials, high-performance etching solvents for semiconductor manufacturing

Bioscience: immunoassay equipment and reagents, high-performance liquid chromatography diagnostic systems, genetic diagnostic equipment and reagents, high-performance separation media for pharmaceutical and medical analyses

Environmental protection and conservation: zeolites for automotive catalytic converters and precious metal recovery, chelating agents for removing heavy metals from water, materials for removing pollutants from soil

Tosoh's functional materials R&D is rooted in a commitment to contribute to the development of products to meet society's most pressing needs in environmental stewardship, health care, and more.

Contributing to the development of highly efficient and reasonably priced solar power is among our objectives. We have commercialized two types of physical vapor deposition (PVD) materials for the transparent electrode layer on a photovoltaic cell. Our zinc aluminum oxide (AZO) product is for thin film silicon photovoltaic cells, and our indium tin oxide (ITO) product is for copper indium gallium selenide (CIGS) photovoltaic cells.

We also have developed transparent conducting oxide (TCO) sputtering targets. Our enhanced ITO and AZO TCO targets achieve higher photovoltaic cell efficiency than standard targets. In addition, we have developed sputtering targets for the manu-

facture of the thin film transistor oxide semiconductors used in flat-panel displays. And we have developed sputtering targets for the low-temperature, low-resistance thin film used in increasingly popular touch-panel displays.

We ... have developed transparent conducting oxide (TCO) sputtering targets. Our enhanced ITO and AZO TCO targets achieve higher photovoltaic cell efficiency than standard targets.

Tosoh, meanwhile, is playing an important role in developing electronics materials and technologies for semiconductors and flat-panel displays. In the semiconductor field, for example, our researchers are developing organometallic compound materials applicable to the next generation of miniaturized circuits.

We also are contributing to the evolution of the organic light-emitting diode (OLED) displays that are becoming the world standard for their high performance and energy conservation. Following our commercialization of electron transport materials, we now also produce the high-efficiency electron hole transport materials used in OLED displays.

Some of Tosoh's most effective efforts in providing energy and environmental conservation solutions through R&D are in the automotive industry. We continue to develop improved manganese oxide materials for use in the cathodes of the rechargeable lithium-ion batteries popular for electric vehicles and that are becoming so omnipresent in society.

R&D personnel also continue to develop eco-products that improve Tosoh's heavy metal chelating and soil remediation agents. Their efforts recently produced an agent for removing anionic heavy metals, such as hexavalent chromium, that complements our line of cationic heavy metal chelates.

.....
Our goal in medical diagnostic systems is to put cutting-edge technologies into the hands of medical caregivers and researchers around the world.
.....

Tosoh's vision in the global health care industry is to support better medical care in developing and developed countries. In developing countries, the priority is typically on controlling infectious diseases. The concern in developed countries is primarily cardiovascular diseases, cancer, and diabetes.

Tosoh's medical diagnostic system R&D supports the accurate and rapid diagnosis and effective treatment of ailments common to developing and developed nations and therefore helps to raise the level of health care globally. In another health-related area, our zirconia dental materials are contributing to improved treatments in dentistry.

We are, meanwhile, developing high-performance separation media for biomedical fields. Our advanced separation systems are employed, for instance, in refining antibodies.

Our goal in medical diagnostic systems is to put cutting-edge technologies into the hands of medical caregivers and researchers around the world. The Tokyo Research Center, for example, designs diagnostic and particularly genetic testing tools based on genetic analysis and genetic engineering technologies. It is making progress especially in the development of diagnostic tools for various infectious diseases. Our diagnostic systems also are contributing to research on the frontiers of medical science and drug discovery, including cancer testing technologies.

CHLOR-ALKALI GROUP

Vinyl isocyanate chain process technologies: energy-saving cathodes for electrolyzing salt, improved methods for producing isocyanate materials, other such technologies



Tosoh's innovation in electrolysis and other technologies strengthens the vinyl isocyanate chain that is the core of the company's business in basic chemicals.

The company's n-BiTAC bipolar ion-exchange membrane electrolyzer cells are the first step in the integrated operations of the company's vinyl isocyanate chain. They are the best of their kind in electrical efficiency, and Tosoh R&D continues to develop and test cathodes that likewise conserve power.

Tosoh and its wholly owned subsidiary NPU collaborate in R&D to improve the vinyl isocyanate chain's production processes. They also cooperate in developing applications for the heat-resistant polyurethane foam used in the construction industry and for other urethane-based products.

Tosoh's R&D bodies work as a group in developing comprehensive technologies to improve the manufacturing processes of the vinyl isocyanate chain, from catalyst development through process improvement.

PETROCHEMICAL GROUP

Polyethylene: high-performance materials for laminates and food packaging, including high melt strength polyethylene—with molding-grade applications in development—and ethylene vinyl acetate film for encapsulating photovoltaic cells, quality improvements in production processes, increased transparency in film

Adding value to commodities is the essence of Tosoh's R&D in petrochemicals. We primarily seek to improve and develop polymers and related technologies.



We ... are developing materials that resist the surface degradation common in insulation materials.

Tosoh's development and improvement program for commodity polyethylenes aims to differentiate the company's products in the market through superior functionality. Our new and better grades of foams, laminates, food product packaging, and other applications contribute to our sales of petrochemicals. We also continue to develop new applications for our high melt elasticity polyethylenes. Our goal is to expand their use in the automotive, packaging, construction materials, and medical care industries.

The Petrochemical Group joins the Specialty Group in making photovoltaic cells an important research theme. The Petrochemical Group is developing resins for this growing market, with an emphasis on high-performance ethylene vinyl acetate (EVA) sealing film. Tosoh is one of only a few companies worldwide making grades of EVA suitable for the encapsulant film of photovoltaic cells. And our researchers are developing highly durable EVA-based adhesives.

The supply of raw materials for petrochemical resins provided by C5 and C9 fractions is becoming an issue in the petrochemical industry because of the decline in the operating rates of naphtha crackers. Consequently, our researchers are concentrating on developing manufacturing technologies that

substantially improve the production volume of naphtha crackers.

Among high-performance resins, we are developing polyphenylene sulfide (PPS) resins with superior metal bonding and high thermal conductivity characteristics. Commercial applications are available for smartphone bodies. Tosoh has had good success in introducing metal adhesion PPS compounds for the electronics industry. We also are developing materials that resist the surface degradation common in insulation materials.

Our R&D in chloroprene rubber (CR) focuses on reengineering our manufacturing processes to expand production and on developing new grades of CR in accordance with the requirements of customers. Similarly, we are working to improve our production processes for chlorosulphonated polyethylene (CSM) rubber. We also are developing new grades of CSM to support our position as the world's top CSM manufacturer.

Our petrochemical-related R&D programs also are tasked with discovering new applications for products. We are looking into uses for PVC paste besides wallpaper and flooring materials. In addition, we are aggressively developing new polymer materials for use in optical materials for LCDs and in substrate materials for flexible displays.

ENGINEERING GROUP

Water treatment technologies: ultrapure water production, purified water production, filtration, wastewater treatment, valuable resource recovery, waste reduction, groundwater treatment, ion-exchange membranes

Soil treatment technologies: soil remediation

The R&D Center of our subsidiary Organo Corporation forms the core of Engineering Group R&D. That facility emphasizes developing basic technologies, improving products, and devising new products and services to complement and bolster Organo's offerings.

In addition to soil remediation technologies and services, Organo's range of products and services includes water treatment equipment, such as pure, superpure, and clean water producing equipment; water treatment plants, such as wastewater treatment or chromatography separation systems; water treatment chemicals; and food additives and materials for food processing.



Reporting on Responsible Care for 2013

The pages to follow look at Tosoh's corporate social responsibility initiatives and their results.

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Our RC activities are very much a part of our initiatives. We are as committed to fulfilling our corporate social responsibilities as we are to our corporate growth by ensuring that we exist and prosper together with local communities.

.....

Kenichi Udagawa
President, Tosoh Corporation

PRESIDENT'S MESSAGE

Expectations for chemistry to provide solutions to environmental and other global issues are at an unprecedented level.

.....

Accordingly, the role that the chemical industry must play in devising responses to such issues is expanding.

Tosoh recognizes this and aims to make a difference. We are working to strengthen our corporate base to better fulfill our corporate mission of “supplying essentials to daily life through the chemistry of innovation.”

We are implementing measures to deal with such global issues as global warming and the safe management of chemical substances. We conduct our efforts through a voluntary

Responsible Care (RC) program centered on environmental preservation and ensuring the safety and health of our employees and of society. Our efforts target the life cycle of our products, from the development of the chemical substances from which they are made through their manufacture, use, and disposal.

Despite our best efforts, we endured an accident involving an explosion and fire at our Nanyo Complex in November 2011. That event caused trouble for the residents and authorities of neighboring areas. It also

provided a vital lesson that compelled us to completely review our safety measures.

In June 2012, we formulated safety reforms with the following three objectives: “ensuring that Tosoh is a safe chemical manufacturer in which this type of accident will never happen again,” “providing employees with a safe place to work,” and “ensuring that Tosoh is a safe company in which local residents and others can place their trust.” We continue to work in earnest toward achieving these objectives.

Tosoh is aware that safety is central to its business and is endeavoring, through the application of its safety reforms, to rebuild its reputation as a safe chemical manufacturer.

Our RC activities are very much a part of our initiatives. We are as committed to fulfilling our corporate social responsibilities as we are to our corporate growth by ensuring that we exist and prosper together with local communities through the safe and stable supply of products.

I look forward to the guidance and support of all stakeholders in our RC endeavors.



Kenichi Udagawa
President

CONTRIBUTING TO ENVIRONMENTAL PROTECTION WITH TOSOH PRODUCTS

Developing products and technologies that contribute to society is our mission.

Tosoh carries out its production activities based on its corporate mission of “supplying essentials to daily life through the chemistry of innovation.” We pursue R&D

programs with an emphasis on solving environmental and energy issues. In the section to follow, we introduce Tosoh products that contribute to environmental protection.



IN THE OFFICE

COLORED CHIPS FOR INKS AND TONERS
Taihei Chemicals Ltd.

Taihei Chemical’s environmentally friendly raw material colored chips minimize the environmental impact of inks and color toners.

SILICA FOR BATTERY SEPARATORS
Tosoh Silica Corporation

Silica from Tosoh Silica improves the performance of the lithium-ion batteries used in automobiles, mobile phones, and personal computers.



IN THE HOME

ETHYLENE VINYL ACETATE PROTECTION AND SEALING FILM FOR SOLAR CELLS

Polymers Division

Our ethylene vinyl acetate (EVA) copolymer features superior durability and full light spectrum transparency and is therefore utilized as a protection and sealing film in solar cells.

SILICA GLASS FOR SOLAR CELLS

Advanced Materials Division

Silica glass from Tosoh is used in the formation of the electrical power generation layer of thin film solar cells and in the production of crystalline silicon solar cells.

SPUTTERING TARGETS FOR THIN FILM DEPOSITION MATERIALS

Advanced Materials Division

Tosoh's zinc aluminum oxide (AZO) and indium tin oxide (ITO) sputtering targets are used as thin film deposition materials for such high energy saving products as solar cells, light-emitting diodes (LEDs), organic electroluminescence displays (OLEDs), and light-shielding and thermal glass.

POLYVINYL CHLORIDE COMPOUNDS FOR PLASTIC WINDOW SASHES

Plas-Tech Corporation

Multi-glazed plastic window sashes made of Tosoh's polyvinyl chloride feature superior insulating properties. This greatly increases the efficiency of heating and cooling systems and contributes to energy conservation.

INSULATING POLYURETHANE FOAM FOR ENERGY SAVINGS

Nippon Polyurethane Industry Co., Ltd.

NPU's polyurethane foam has excellent insulating properties and is widely used in homes, refrigerators, and other products. It contributes to energy savings by raising heating and cooling efficiency wherever it is applied.



IN ELECTRICAL DEVICES AND AUTOMOTIVE PARTS

POLYPHENYLENE SULFIDE RESINS FOR ELECTRICAL DEVICES

Polymers Division

Because of their insulating, heat-resistance, and metal adhesion properties, our polyphenylene sulfide (PPS) resins are used in the electric generation motors of hybrid vehicles and in the housing and battery covers of smartphones and other electronic devices. They thus indirectly helping to reduce CO₂ emissions.

ZIRCONIA FOR CLEANER AIR AND HEIGHTENED FUEL ECONOMY

Advanced Materials Division

Solid oxygen ion conductivity makes our yttria-stabilized zirconia (YSZ) suitable for broad use in products contributing to environmental protection. YSZ, for example, is typically applied in solid oxide fuel cells and in automobile oxygen sensors, where it helps to limit vehicle exhaust gases and to increase fuel economy.

ZEOLITES FOR A PURER ENVIRONMENT

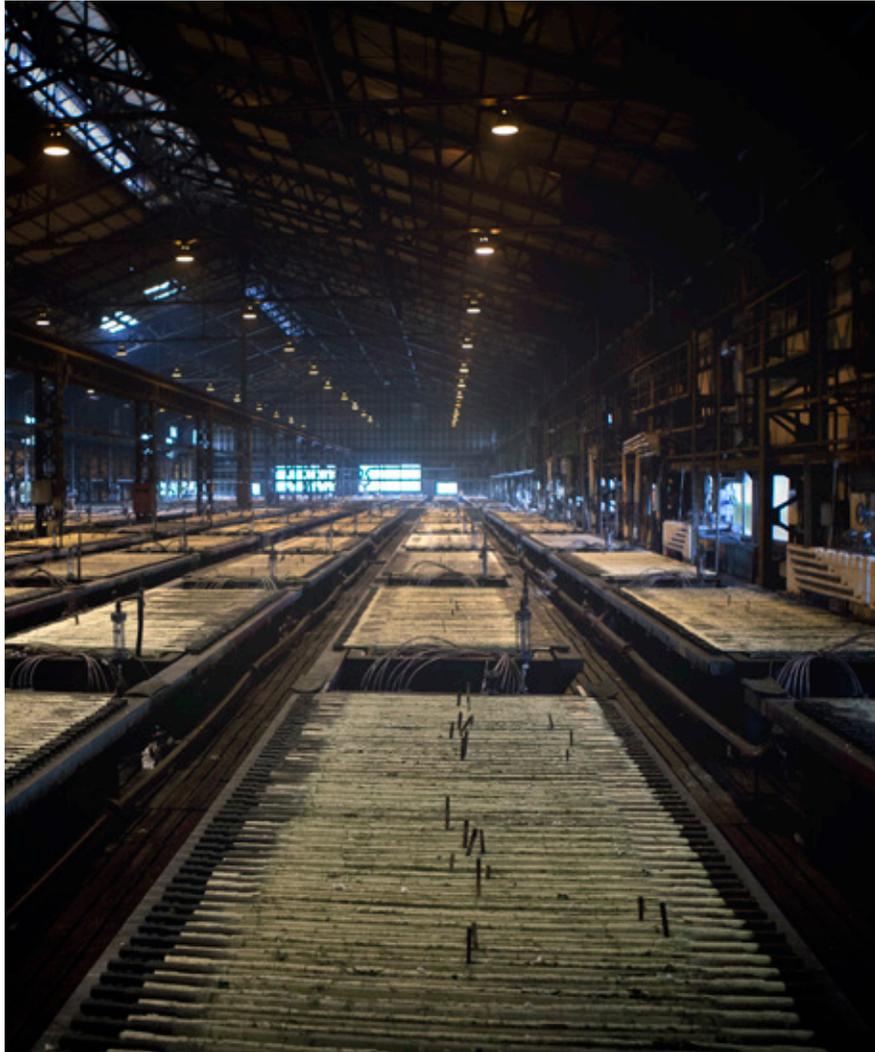
Advanced Materials Division

Our zeolites help clean the environment by acting as catalysts that remove hydrocarbons, nitrogen oxide, and other harmful emissions from automobile exhaust. They also are widely used for cleaning volatile organic compounds (VOCs) from factory exhaust and the emissions of semiconductor factories.

SILICA FOR ENERGY-SAVING TIRES

Tosoh Silica Corporation

Adding silica from Tosoh Silica to tires reduces the tires' rolling resistance on pavement. This reduces automobile fuel consumption as much as 6%.



IN INDUSTRY AND PLANTS

ULTRAWIDE WATERPROOFING SHEET FOR LANDFILLS

Tosoh Nikkemi Corporation

Uniquely ultrawide waterproofing sheet from Tosoh Nikkemi is valued in landfills because it is easier to work with and has fewer seams than traditional products. It dramatically reduces toxic material leaks.

HC SERIES HYDROCARBON CLEANING AGENTS FOR DEGREASING

Organic Chemicals Division

Tosoh's HC series hydrocarbon cleaning agents are used in the metalworking, precision instruments, automotive, and electronics fields for degreasing and otherwise cleaning parts. These environmentally friendly, nonaqueous cleaners can be recovered using continuous distillation.

POLYETHYLENE FOR THINNER PLASTIC CONTAINERS

Polymers Division

Our polyethylene product minimizes waste by optimizing material composition to produce thinner containers.

TECHNOLOGY FOR GROUNDWATER AND SOIL DECONTAMINATION REMEDIATION

Eco-Techno Corporation

Eco-Techno's energy and natural resource conservation system incorporates groundwater and soil remediation technology perfected by the subsidiary over the years. The system contributes to significantly reducing the burden placed on the environment by industrial activity.

TECHNOLOGY FOR AIR- AND WATER-QUALITY ANALYSIS

Tosoh Analysis and Research Center Co., Ltd.

The Tosoh Analysis and Research Center leverages separation analysis technology that Tosoh has accumulated over the years to perform water- and air-quality analysis to satisfy user needs.

RESPONSIBLE CARE ACTIVITIES

As a chemical manufacturer, Tosoh makes the environment, safety, and health top management priorities. The company has formulated action policies regarding the environment, safety, and health and established an RC promotion structure to guide its RC activities in these respects.



RC ACTIVITY AREAS

ENVIRONMENTAL PRESERVATION

Tosoh works to combat global warming and to reduce the discharge of harmful substances and the quantity of landfill waste produced.

CHEMICAL AND PRODUCT SAFETY

To promote the global management of chemical substances, the company complies with laws governing registration requirements and classification and labeling standards.

SAFETY AND DISASTER PREVENTION

The company aims to prevent accidents by managing safety at its facilities and by analyzing accidents to prevent recurrences.

QUALITY ASSURANCE

Tosoh aims to reduce product defect claims and to strengthen its quality assurance system.

OCCUPATIONAL HEALTH AND SAFETY

Tosoh strives to raise safety awareness among, to reduce occupational accidents involving, and to oversee the mental and physical health of its employees.

LOGISTICAL SAFETY

Tosoh Logistics Corporation implements a variety of safety measures and training programs to ensure the secure transport and storing of chemical products.

DIALOGUE WITH THE PUBLIC

Tosoh undertakes exchanges of information and opinions regarding its RC activities with the communities near its operations.



Responsible Care®

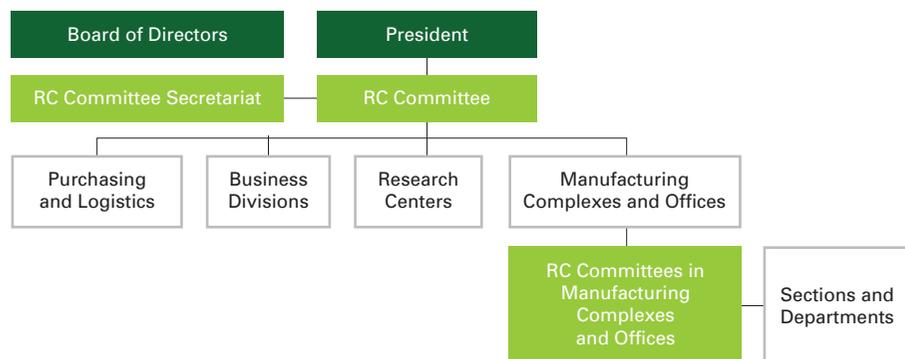
WHAT IS RESPONSIBLE CARE?

The global chemical industry conducts a voluntary initiative called Responsible Care (RC) that aims to improve the performance of chemical companies in relation to the environment, safety, and health. Tosoh is involved in this initiative as a member of the Japan Chemical Industry Association's Responsible Care Committee. Globally, the RC program has spread to the chemical industries of 57 countries and regions as of April 2013.

RESPONSIBLE CARE PROMOTION STRUCTURE

To promote its RC activities, Tosoh has established its own RC Committee. The director responsible for the company's Environment, Safety and Quality Control Division chairs the committee, and the committee's members include general managers from Tosoh's Purchas-

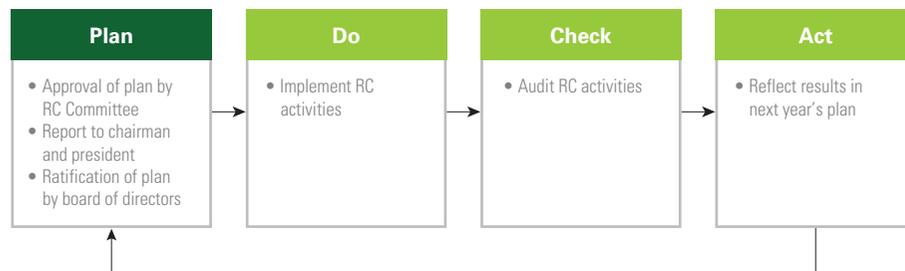
ing and Logistics Division, operating divisions, manufacturing complexes and offices, and research centers. Our RC Committee decides the RC activity plan for each year, and our manufacturing complexes and offices carry out the planned activities.



CONTINUED IMPROVEMENT IN RC ACTIVITIES THROUGH A PDCA CYCLE

We employ a plan-do-check-act (PDCA) cycle to raise the quality of our RC activities. The PDCA cycle ensures that RC activities are well thought out, are implemented based on an annual plan, are evaluated, and

are adjusted for best effect in the immediate term and for the following year. In fiscal 2013, the Nanyo and Yokkaichi Complexes each audited the results of their respective RC plans.



FISCAL 2014 RC ACTION POLICIES AND OBJECTIVES

PRIORITY BASIC STANCE

- Implement RC activities with participation of all employees based on Tosoh's safety reform initiatives.

OCCUPATIONAL HEALTH AND SAFETY

- Implement occupational health and safety activities, with all employees participating.
- Implement measures for earthquakes and tsunami.
- Maintain comfortable workplaces and work environments.

ENVIRONMENTAL PROTECTION

- Implement management of air pollution and wastewater.
- Manage emissions of substances registered under the PRTR system through stable operations.
- Reduce use of hazardous air pollutants.
- Reduce final disposal amounts of industrial waste.
- Promote proper disposal of instruments that include polychlorinated biphenyls (PCBs).

CHEMICAL AND PRODUCT SAFETY

- Comply with REACH registration.*
- Comply with domestic and overseas laws and revisions.
- Improve product safety assessment screening.

QUALITY ASSURANCE

- Reduce logistic claims.
- Inspect and strengthen quality assurance system.
- Reinforce collaboration with related departments to improve quality assurance of pharmaceutical-related products.

LOGISTICAL SAFETY

- Strengthen and promote safety measures for deliveries at customer facilities.

DIALOGUE WITH THE PUBLIC

- Continue to communicate with local communities.
- Promote risk communication.

*Europe's Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) regulation

ENVIRONMENT

We strive through a wide range of sustainable environmental protection measures to reduce our impact on the environment.

APPLYING COST-BENEFIT ACCOUNTING FOR ENVIRONMENTAL PROTECTION

Tosoh applies cost-benefit accounting to quantify the costs and benefits of its environmental programs. In fiscal 2013, the company's environmental-related capital investment increased because of several major outlays, rising ¥0.78 billion, to ¥2.35 billion. The company invested in pollution preven-

tion efforts during its construction of its Toyopearl plant and amid its expansion of production capacity at its zirconia plant at the Nanyo Complex. Tosoh also invested in resource recycling at its Yokkaichi Complex's ethylene plant.

Tosoh's environmental protection expenditures in fiscal 2013 were ¥13.9 billion, while its economic benefits totaled ¥5.8 billion. The

company's environmental-related capital investment over the 10-year period from fiscal 2004 was ¥56.2 billion. Cumulative safety-related capital investment for that period came to ¥1.0 billion.

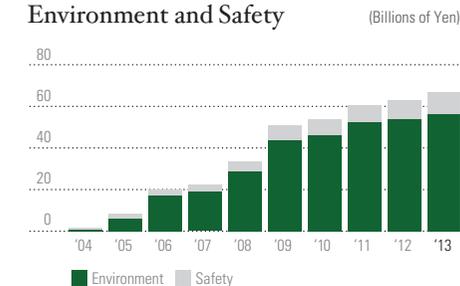
We undertake environmental cost-benefit accounting in accordance with the 2005 edition of the *Environmental Accounting Guidelines* from Japan's Ministry of the Environment. For items

not covered by those guidelines, we calculate using our assumptions. The results here are for the Nanyo Complex, the Nanyo Research Laboratory, the Technology Center, the Yokkaichi Complex, the Yokkaichi Research Laboratory, the Tokyo Research Center, and our Tokyo corporate headquarters for the period from April 1, 2012, to March 31, 2013.

ENVIRONMENTAL PROTECTION COSTS

		(Capital spending)			(Billions of Yen)
		2012	2013	10-year total (2004-2013)	2013
Costs within business area		1.3	2.3	53.7	11.4
Pollution prevention	Exhaust gas and wastewater treatment	0.2	1.4	31.9	6.6
Global environmental protection	Electric power and fuel reduction measures	0.6	0.4	10.6	2.0
Resource recycling	Raw material and waste product recovery	0.5	0.4	11.2	2.8
Administration	Environmental management, impact assessment, environmental report publishing, environmental load auditing	0.0	0.0	0.4	0.6
Research and development	Environmental load reduction technology and environmental product development	0.2	0.0	2.1	1.9
Social activities	Association fees, planting, community contributions	0.0	0.0	0.0	0.1
Other		0.0	0.0	0.0	0.0
Total		1.6	2.4	56.2	14.0

Cumulative Investment in Environment and Safety



ENVIRONMENTAL PROTECTION BENEFITS

Category (Units)	2012	2013	Variance
Energy consumption in terms of crude oil (thousands of kiloliters)	1,800	1,700	-100
SO _x emissions (metric tons)	400	410	10
NO _x emissions (metric tons)	7,700	7,000	-700
COD* emissions (metric tons)	880	710	-170
Dust emissions (metric tons)	330	230	-100
PRTR-related emissions (metric tons)	400	340	-60
Waste generated (thousands of metric tons)	380	360	-20
Final waste disposal (thousands of metric tons)	2.2	1.3	-0.9

*Chemical oxygen demand

ECONOMIC BENEFITS

(Billions of Yen)

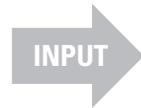
		2012	2013
Income	Contract recycling of industrial waste from outside Tosoh and sale of nonconforming products	0.6	0.6
	Energy conservation	2.4	3.7
Cost savings	Cost reductions in waste treatment through resource conservation and recycling	4.8	1.6
Total		7.8	5.8

INPUT AND OUTPUT FOR PARENT AND GROUP COMPANY OPERATIONS

	Energy Consumption (Kiloliters)		
	Crude oil equivalent	1.7 million	230,000

	Raw Materials (Metric Tons)		
		5.5 million	1.0 million

	Water Consumption (Metric Tons)		
	Excluding seawater	53 million	28 million



	Products (Metric Tons)		
		4.9 million	730,000



■ Tosoh Corporation ■ Group companies*

*Group company list on page 51

	Atmospheric Emissions (Metric Tons)		
	CO ₂ (based on fuel consumption)	5.6 million	530,000
	CO ₂ (based on nonfuel consumption)	620,000	—
	CO ₂ (based on waste disposal fuels)	40,000	—
	N ₂ O	180,000	—
	SO _x (sulfur oxides)	410	520
	NO _x (nitrogen)	7,000	230
	Dust	230	24
	PRTR-designated substances	288	360

	Water Emissions (Metric Tons)		
	COD	710	110
	Phosphates	31	1.6
	Nitrogen	250	49
	PRTR-designated substances	55	11
	Wastewater (including seawater)	1.1 billion	27 million

	Soil Emissions (Metric Tons)		
	Landfill waste	1,200	30,000
	PRTR-designated substances	0	0

COMBATING GLOBAL WARMING

Tosoh is continuously improving the energy efficiency of its manufacturing processes. Our strength is our self-generation of energy using coal-fired power plants equipped with high-efficiency turbines. And our target in fiscal 2013 was to lower our per unit energy consumption below 80% compared with fiscal 1991.

We did not meet this goal, but we did achieve an improvement of 1.8 percentage points from a year earlier, to 87.5% compared with fiscal 1991. The improvement can be mainly attributed to our ability to operate production facilities under optimum conditions. Calculated in terms of CO₂ released from primary fuel consumption, our greenhouse gas emissions amounted to 5.6 million metric tons compared with 5.9 million metric tons in the previous fiscal year.

IN-HOUSE POWER PLANT

The state-of-the-art boiler No. 6 at our No. 2 power plant for the co-firing of woody biomass is a Nanyo Complex asset that supplies power and steam to the complex's production plants. The complex operates a number of boilers that allow for the mixed combustion of coal and woody biomass, but the No. 6 boiler boasts in addition a high-efficiency 220,000-kilowatt (KW) power generating unit. Tosoh, meanwhile, has stopped using low-efficiency power generating units, and that and its use of the No. 6 boiler has helped it achieve around a 19% reduction in energy consumption.

ELECTROLYSIS PLANTS

Conventional electrolysis plants consist of electrolyzers that require enormous amounts of electricity. Electrolysis plants at Tosoh, however, are a demonstration of energy saving in action. We've almost doubled production in our electrolysis plants since 1990, and yet we've

still managed to reduce their energy calorie units 9%. The n-BiTAC electrolyzers we developed with Chlorine Engineers Co., Ltd., draw 9% fewer calorie units than conventional electrolyzers and are popular among plant operators in North America, Europe, and Asia.

LOGISTICS

In fiscal 2013, CO₂ emissions by our transport operations amounted to 48,000 metric tons. Sea and rail transport accounted for 84.5% of the metric ton-kilometer measure (transported weight times distance transported) for the mode of transport during the year, indicating progress in our modal shift away from trucking. But because truck transportation represented 57.0% of the CO₂ emissions of our transport operations, we will take steps to further reduce our CO₂ emissions, especially for that mode of transport. We continue working to shift our shipments to water and rail, to improve our transport efficiency, to use special tires that

improve our fuel efficiency, and to paint our ships with coatings that limit water friction.

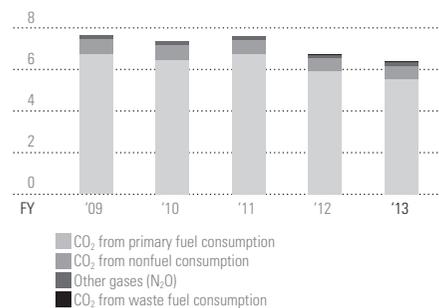
We continue working to shift our shipments to water and rail, to improve our transport efficiency.

OTHER MEASURES

We are implementing various additional global warming reduction measures at our Nanyo and Yokkaichi Complexes. Tosoh continues to turn off the lights at night in all areas where safety or security are not issues. The company also continues to promote environmentally conscious commuting to work by its employees, including using public transport or carpooling. Furthermore, we work with outside consultants to raise energy savings at our plants.

Atmospheric Emissions of Greenhouse Gases

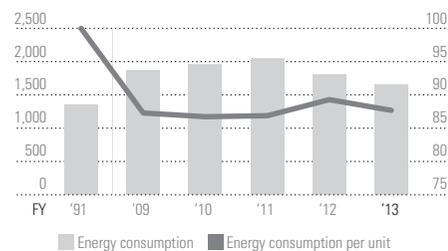
(Millions of Metric Tons)



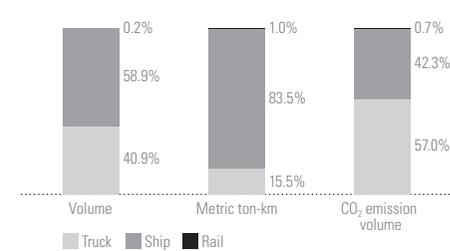
Energy Consumption and Basic Unit

(Crude Oil Equivalent, kl)

(Energy Consumption per Unit)



Transport Operations and CO₂ Emissions



USING RESOURCES EFFECTIVELY

Tosoh makes a significant contribution to recycling in its operations and in the surrounding communities. The company collects waste produced on location and from households and other companies near its operations and recycles it into new products.

In fiscal 2013, Tosoh produced 360,000 metric tons of industrial waste. By recycling that waste at its cement plant and by implementing other measures, Tosoh reduced its net amount of industrial waste disposed of to 1,300 metric tons. Our target is to reduce our total annual industrial waste to less than 1,800 metric tons by the end of fiscal 2016. This figure represents a 65% reduction from the 5,100 metric tons produced in fiscal 2001.

RECYCLING BY TOSOH'S CEMENT PLANT

The Nanyo Complex's cement plant processes approximately 380,000 metric tons of refuse annually for use as raw material for cement. This includes such waste and by-products as household garbage, used tires, and industrial waste. The industrial waste comes from the operations of the Nanyo Complex and from other nearby companies.

The raw material for cement is incinerated in a kiln at the high temperature of approximately 1,500°C to break down all harmful substances. This allows a wide range of materials to be substituted in producing raw material or fuel. The kiln also has a chlor-bypass system that enables the processing of even waste with high concentrations of chloride. The bypass system removes gases and cleans chloride compounds adhered to the dust in those gases.

Tosoh recycles bromine and chlorine for use as raw materials or other applications. The Nanyo Complex has facilities for recovering chlorine and bromine from its own and externally sourced production effluents. It also has facilities to process salt by-products from ethyleneamine production and to refine them into high-purity sodium chloride.

Shunan City, meanwhile, has also long supplied the Nanyo Complex with the refuse-derived fuel (RDF) made at its Shunan Fuel Conversion Facility, otherwise known as Phoenix. RDF, a solid fuel made from household garbage, fuels the cement plant. Such cooperative measures aid Tosoh in its continued efforts to contribute to achieving a recycling society.

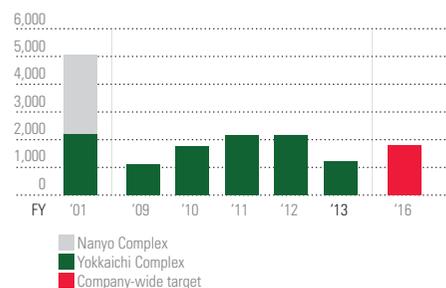
COLLABORATING WITH THE COMMUNITY

The Shunan City Recycling Plaza began operation in Yamaguchi Prefecture in April 2011 and is nicknamed Pegasus. It supplies the nearby Nanyo Complex with semi-processed plastic waste collected from households for use as fuel in Tosoh's cement plant.

The company collects waste produced on location and from households and other companies near its operations and recycles it into new products.

It also is the scene of joint research by the city and Tosoh aimed at reducing the amount of coal used by Tosoh's operations and the amount of carbon dioxide those operations emit. Another research theme centers on extending the useful life of landfill sites.

Total Industrial Waste (Metric Tons per Year)



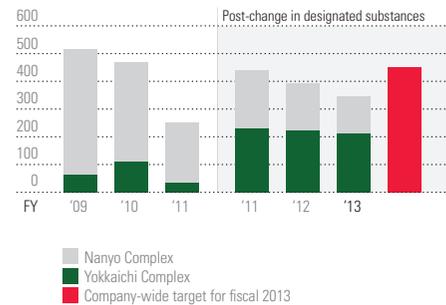
IMPLEMENTING INITIATIVES TO REDUCE EMISSIONS

LIMITING EMISSIONS OF PRTR SUBSTANCES

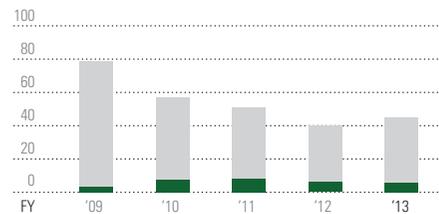
Tosoh is implementing various measures to reduce its emissions of substances covered in Japan's Pollutant Release and Transfer Register (PRTR) under the chemical substances law.* The company further reduced its emissions by 57 metric tons, or 14%, to 343 metric tons in fiscal 2013, from 400 metric tons in fiscal 2012. Tosoh thus reached its target of lowering emissions to less than 452 metric tons by fiscal year-end 2013.

*Act on Confirmation, etc., of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof. This law revised the 2008 government ordinance, expanding the number of class I designated substances disclosed from 354 substances to 462 substances commencing in fiscal 2011.

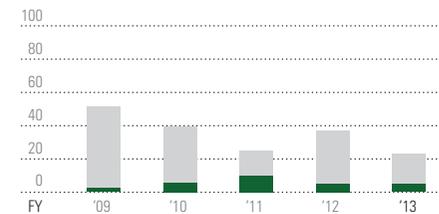
Total Emissions of PRTR-Designated Substances (Metric Tons per Year)



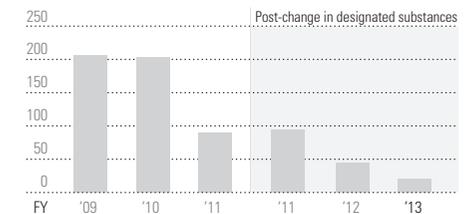
Chloroethylene (Metric Tons per Year)



1,2-Dichloroethane (Metric Tons per Year)



Ethyleneamines* (Metric Tons per Year)



*Before change in designated substances: ethylenediamine, piperazine, and diethylene triamine
 After change in designated substances: ethylenediamine, piperazine, triethylenetetramine, and tetraethylenepentamine

PREVENTING ATMOSPHERIC POLLUTION

If the SO_x, NO_x, and dust in the smoke emissions from boilers escape into the atmosphere, they can cause acid rain and possibly adversely affect people's health. Tosoh therefore takes measures to reduce these emissions.

By installing boilers with high-efficiency desulfurization equipment, by strengthening operating management, and by other measures in fiscal 2013, we were successful in reducing SO_x emissions by about 70% of those in fiscal 1996. That was the year the Japan Chemical Industry Association formed its Responsible Care Committee.

Our installation of denitration equipment similarly reduced NO_x emissions in fiscal 2013, by approximately 40% of NO_x emissions in fiscal 1996. And our implementation in fiscal 2013 of dust dispersion measures in the adsorption towers of the Yokkaichi Complex's boiler

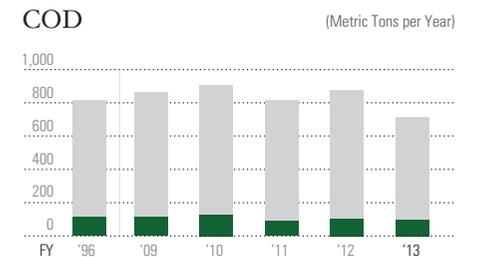
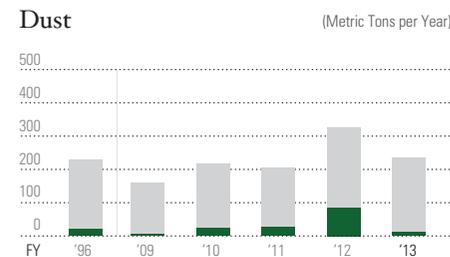
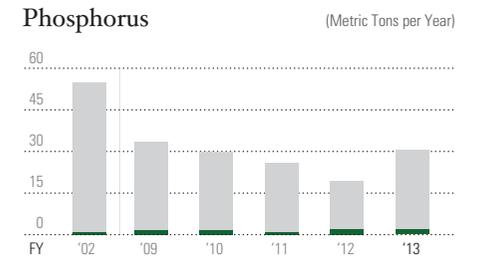
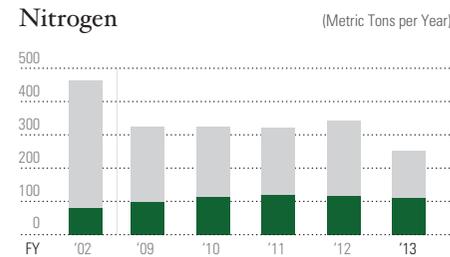
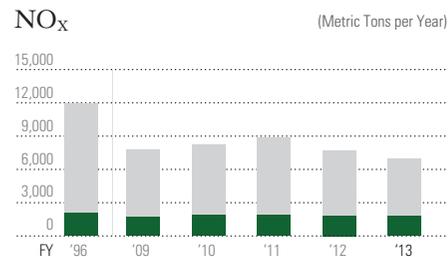
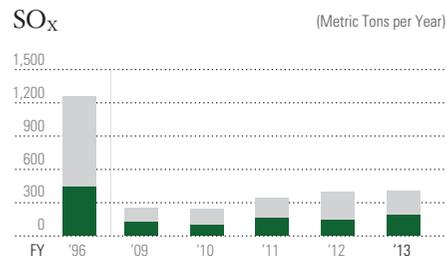
facilities decreased dust emissions about 40% compared with a year earlier.

Tosoh is dedicated to continuing its efforts to improve the air quality at its manufacturing facilities.

PREVENTING WATER POLLUTION

In the coastal areas of Japan where people and industry are concentrated, such as the enclosed coastal seas of Tokyo and Ise Bays and the Seto Inland Sea, strict measures are used to control water pollution. There are concentration standards for wastewater, and there are water-use regulations stipulated under Japan's Water Pollution Prevention Act. And each of Tosoh's manufacturing facilities has set a voluntary management standard for water contaminants to ensure that the facilities comply with laws and with regulations established in cooperation with local government bodies.

When we build or expand our manufacturing facilities, moreover, we install water treatment facilities and other equipment that oxidize and disintegrate wastes. This helps to maintain total chemical oxygen demand (COD), nitrogen, and phosphorus amounts within legal requirements. Tosoh is committed to continuing to work to prevent water pollution.



■ Nanyo Complex
■ Yokkaichi Complex

PRTR SUBSTANCES: EMISSIONS AND VOLUMES

NANYO COMPLEX

(Metric Tons)

Substance	Atmospheric emissions	Water emissions	Soil emissions	Landfill disposal	Sewage disposal	Transport outside plant site
Chloroethylene	37.0	2.1	0.0	0.0	0.0	0.0
1,2-dichloroethane	17.0	1.2	0.0	0.0	0.0	33.0
Ethylenediamine	3.1	12.0	0.0	0.0	0.0	0.0
Chloroform	2.1	8.4	0.0	0.0	0.0	0.0
1,1,2-trichloroethane	9.0	0.5	0.0	0.0	0.0	67.0
1,4-dioxane	5.7	1.9	0.0	0.0	0.0	77.0
Vinyl acetate	3.0	1.8	0.0	0.0	0.0	0.0
Triethylenetetramine	0.0	4.1	0.0	0.0	0.0	0.0
Methacrylic acid	0.0	3.7	0.0	0.0	0.0	0.0
n-alkylbenzenesulfonic acid and its salts	0.0	3.2	0.0	0.0	0.0	0.0
1,3-butadiene	1.7	1.4	0.0	0.0	0.0	0.0
Styrene	1.5	0.8	0.0	0.0	0.0	0.0
Tetraethylenepentamine	0.0	1.8	0.0	0.0	0.0	0.0
Water-soluble zinc compounds	0.0	1.4	0.0	0.0	0.0	0.0
Dichlorodifluoromethane	1.2	0.0	0.0	0.0	0.0	0.0
HCFC-22	1.1	0.0	0.0	0.0	0.0	0.0
Dioxins (mg-TEQ)	(35.0)	(4.9)	(0.0)	(0.0)	(0.0)	(0.0)
44 other substances	3.4	1.0	0.0	0.0	0.0	300.4

YOKKAICHI COMPLEX

(Metric Tons)

Substance	Atmospheric emissions	Water emissions	Soil emissions	Landfill disposal	Sewage disposal	Transport outside plant site
n-hexane	170.0	0.3	0.0	0.0	0.0	0.0
Isopropenylbenzene	8.4	0.0	0.0	0.0	0.0	0.0
Chloroethylene	5.7	0.0	0.0	0.0	0.0	0.0
1,2-dichloroethane	4.8	0.0	0.0	0.0	0.0	4.1
Triethylamine	0.0	4.5	0.0	0.0	0.0	0.0
Water-soluble zinc compounds	0.0	3.9	0.0	0.0	0.0	0.0
Vinyl acetate	3.0	0.5	0.0	0.0	0.0	0.0
Toluene	2.6	0.0	0.0	0.0	0.0	0.3
Xylene	2.1	0.0	0.0	0.0	0.0	2.2
2,6-ditertialbutyl-4-cresol	1.8	0.0	0.0	0.0	0.0	0.0
Chlorodifluoromethane	1.1	0.0	0.0	0.0	0.0	0.0
Dichlorodifluoromethane	1.1	0.0	0.0	0.0	0.0	0.0
Dioxins (mg-TEQ)	(1.3)	(3.2)	(0.0)	(0.0)	(0.0)	(0.0)
23 other substances	1.8	0.2	0.0	0.0	0.0	46.3



Safety Pledge: We pledge to be ever mindful of safety and the sanctity of human life, to continue to clearly pass on this commitment to future generations so that the lessons learned from this accident may never be forgotten, and to exert our best efforts to prevent such an accident from ever happening again.

A handwritten signature in black ink, appearing to read 'K Udagawa'.

November 13, 2012

Kenichi Udagawa

President, Tosoh Corporation

SAFETY

Employees throughout Tosoh are working to rebuild the company's reputation and the public's trust in the company as a safe chemical manufacturer.

PROMOTING SAFETY REFORM

On November 13, 2011, an accident occurred at the No. 2 VCM Plant of the Nanyo Complex that caused a great deal of trouble for the residents and authorities of neighboring areas. We have reviewed our safety activities based on the results of investigations into

the causes of this accident and are working as a group to gain public trust in our operations.

ISSUING SAFETY REFORM GUIDELINES

On November 25, 2011, Tosoh Corporation invited outside scholars and experts to form a Senior Accident Investigation and Preven-

tion Committee to investigate the cause of the accident at the Nanyo Complex's No. 2 VCM Plant and to recommend countermeasures to avoid a similar accident. The committee issued the *Nanyo Complex Accident Investigation Report* in June 2012.

Earlier, in February 2012, the president of Tosoh set up an internal Safety Reform Committee under his direct supervision to ensure that such an accident never happens again and to thereby reestablish Tosoh as a safe chemical manufacturer. After carrying out comprehensive inspections of production activities, facility maintenance, and the

working environment, the Safety Reform Committee issued its *Safety Reform Guidelines* on June 26, 2012.

PURSUING SAFETY REFORM ACTIVITIES

In August 2012, the Nanyo and Yokkaichi Complexes each set up a Safety Reform Promotion Team headed by their respective deputy senior general manager. The teams are pursuing the following safety reform activities:

Conveying the President's Determination

The president of Tosoh visited both manufacturing complexes in August 2012 to view their control rooms, to speak with their employees, and to share his resolve on safety initiatives.

Establishing a Culture of Safety

Plant heads at each of the complexes have increased the opportunities for senior and other top managers of every plant to discuss safety reform activities. Senior-level managers also are encouraged to take the lead in enforcing such basic safety activities as training to achieve a higher success rate in safety initiatives.

Improving the Open Exchange of Information

To improve the risk-related communications systems at both of its complexes, Tosoh is reexamining how best to convey informa-

tion during an emergency to the communities surrounding the complexes and their relevant authorities.

Achieving Better Results through Education and Training

Each of the complexes' manufacturing sections has set up a systematic method of passing on technical skills and know-how based primarily on know-why activities. The sections also hold operations opinion exchange meetings where manufacturing floor workers exchange information to teach manufacturing plant principles and theory.

Implementing Reforms and Planning Initiatives for the Long Run

The managers of the complexes' manufacturing sections have established budgets to ensure that safety reforms can be implemented quickly. To remind everyone of the serious consequences of not upholding the highest standards of safety, the Nanyo Complex Education and Training Center has created an exhibit of the No. 2 VCM Plant explosion that includes photos and remnants of that accident. Tosoh and Tosoh Group companies and their affiliates plan other initiatives to further educate employees on safety, including initiatives that engage workers in safety-related activities.

ESTABLISHING SAFETY DAY

Tosoh has declared November 13 a company-wide safety day and has implemented various activities aimed at firmly establishing a culture dedicated to safe operations. Safety day is meant to encourage employees to share a commitment to making the company and its operations safe and to never forgetting the lessons of the November 13, 2011, tragedy.

UNDERTAKING PLANT SAFETY INITIATIVES

Taking a lesson from the 2011 accident, the company made "general safety inspections involving all employees" one of its RC objectives for fiscal 2013 and worked to achieve zero accidents throughout its operations. There were nevertheless two accidents at the Yokkaichi Complex. Going forward, Tosoh plans to continue to revise its safety activities and to take additional steps to rebuild public trust.

ENSURING PLANT SAFETY

Plant Safety Management System

Tosoh has developed a plant safety management system to find latent dangers in its plant systems. It then evaluates the appropriateness of preventative measures for the exposed risks. The system combines a hazard and operability (HAZOP) study, which identifies risks from an operational standpoint, and a failure mode and effect analysis (FMEA), which pinpoints risks from

an equipment management perspective. The plant safety management system has been adopted by manufacturing sections at all facilities and is being constantly upgraded to further reduce risks.

Management of Risk at Plants

Risk-based inspection (RBI) is a technique for calculating risk defined as the mathematical product of the incidence and the consequence of damage and for devising the most effective plant inspection plans from the standpoint of safety and economy. RBI has attracted attention in recent years as a method of efficiently maintaining equipment while ensuring its reliability and safety. Tosoh has developed and initiated the implementation of evaluation systems incorporating knowledge concerning its own materials assessments. The company is finding the systems useful in increasing plant safety.

High-Pressure Gas Control Self-Inspection Certification System

Japan's High-Pressure Gas Control Law provides for a self-inspection system whereby a company can be certified to perform self-inspections of safety and facility and system completion at its high-pressure gas facilities. Government authorities grant this certification after confirming that the company employs high standards for operations, facilities, and safety management.

In February 2013, the Ministry of Economy, Trade and Industry conducted an on-the-spot, interim inspection at Yokkaichi Complex that met the proper requirements for the certification standards.

The Nanyo Complex was certified, and 12 of its facilities received or renewed their certification in fiscal 2010. After the No. 2 VCM Plant accident, that certification was revoked on April 27, 2012. The company is working to regain trust and to prevent accidents.

Tosoh promotes safety education and disaster preparedness at its manufacturing complexes and research facilities.

HEIGHTENING SAFETY AWARENESS AT TOSOH

Disaster Prevention Training, Presentations on Safety Activities, and Education and Training

Tosoh promotes safety education and disaster preparedness at its manufacturing complexes and research facilities. Our principal methods of doing so include annually conducting disaster prevention training in cooperation with regional fire departments, holding disaster prevention competitions, giving pre-

sentations on safety activities, and conducting other activities.

The company has formulated a systematic education curriculum of teaching and training to strengthen its safety activities and its safety management systems. Tosoh is expanding and improving its hands-on learning.

REVIEWING INDEPENDENT COMPLEX SAFETY ACTIVITIES

Nanyo Complex

The 2011 accident foremost in mind, the Nanyo Complex has added a Local Liaison Office to its Accident and Disaster Prevention Department to serve as the pipeline for information exchange between the complex and government authorities. The complex worked through this Local Liaison Office in cooperating with authorities to establish a revised safety and accident prevention system.

The Nanyo Complex also set up broadcast facilities by which to relay critical information to local residents and strengthened its loud-speaker van fleet. In addition, the complex conducted a range of safety and accident prevention activities as part of its safety reforms. And it expanded and strengthened its periodic safety training programs for staff members and added to its accident prevention equipment and supplies.

Every such measure takes the complex a step further toward ensuring that information

and evacuation instructions can be issued as quickly as possible should a large-scale disaster occur.

Yokkaichi Complex

Under the 2005 revision of the Act on the Prevention of Disasters in Petroleum Industrial Complexes and Other Petroleum Facilities, the Yokkaichi Complex is obligated to establish and maintain a large-volume water-jet system capable of pumping 20,000 liters of water a minute. The complex, therefore, has two 46-meter-in-diameter floating roof water tanks.

The local accident association, comprising Tosoh and neighboring companies, has been using water-jet systems since 2009. In fiscal 2013, the association carried out its water-jet system training exercises at the Yokkaichi Complex. The training exercises included the transport, setup, and operation of the system and served to improve team skills. The Yokkaichi Complex was as a result able to verify preestablished procedures and to confirm the effectiveness of its accident prevention system.

OVERSEEING OCCUPATIONAL SAFETY AND HEALTH

Tosoh strives to prevent accidents and lost-time incidents through an occupational safety and health management system (OSHMS). That system includes a risk assessment of processes and facilities and an analysis of close-call incidents.

In fiscal 2013, the number of lost-time incidents due to falls or to contact with high temperatures or harmful materials amounted to three for employees of the parent company. Affiliates reported that four employees were involved in lost-time incidents.

The company has formulated a systematic education curriculum of teaching and training to strengthen its safety activities and its safety management systems.

Tosoh has reviewed the reasons for these accidents. And based on that review the company is thoroughly rethinking its accident prevention measures and working to ensure safe and stable operations.

OCCUPATIONAL SAFETY SYSTEMS

To raise safety awareness among workers and to reduce occupational accidents, Tosoh maintains a database of accidents, occupational injuries, and close calls from inside and outside the group. Reporting and sharing experiences of close calls and analyzing the data yield valuable insights into ways to prevent similar incidents and to execute safety measures.

INDEPENDENT SAFETY AND ACCIDENT PREVENTION ACTIVITIES BY PLANTS

Nanyo Complex

Section managers at the Nanyo Complex do a safety patrol once a month. And they are joined by the plant heads of related companies, by office managers, by assistant office managers, by supervisors, and by staff members responsible for safety in forming 20 four-member groups to simultaneously patrol sections, thereby helping to maintain and improve “order, cleanliness, and discipline” and occupational safety and accident prevention plans.

A team of veteran Nanyo Complex employees with many years of experience on the manufacturing floor also does safety patrols. It strives to safeguard employees, including those of affiliate companies.

Reporting and sharing experiences of close calls and analyzing the data yield valuable insights into ways to prevent similar incidents and to execute safety measures.

As part of Tosoh’s safety reforms, the complex occupational safety and health committee has added the following items to its agenda, ‘an introduction to department safety activities’, ‘examples of past complex accidents’, and ‘workshops on regulations’. We also have one committee a month report on its safety activities. We aim to make a committee’s best safety initiatives known to other committees to thereby inform and

encourage their safety activities. We have, moreover, launched study groups to reacquaint employees with safety-related rules and to consider revisions to those rules.

Yokkaichi Complex

Since fiscal 2011, the Yokkaichi Complex has been implementing “general safety inspections involving all employees.” The effort involves ingraining important safety habits in all employees, including greeting everyone you see to let them know you are there, anticipating danger, and immediately pointing out problems.

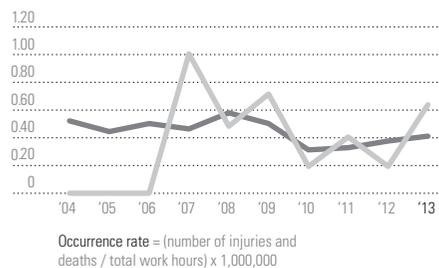
In fiscal 2013, the complex focused on “anticipating danger” and conducted a course to that effect. The course was as much for employees engaged in operations in the manufacturing

We have, moreover, launched study groups to reacquaint employees with safety-related rules and to consider revisions to those rules.

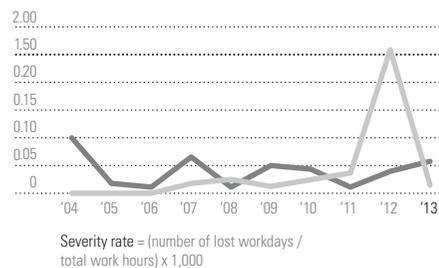
sections as for plant managers and research staff. The course will continue in fiscal 2014 but will be expanded to cover all manufacturing section employees. Various ways of emphasizing the need to greet everyone you see to let them know you are there and to immediately point out problems are also being considered for each workplace.

During the fiscal year under review, meanwhile, the Yokkaichi Complex also conducted activities to make the safety stances of the heads of operations visible. These activities included having the heads and assistant heads of operations carry out safety promotion activities and safety patrols to encourage dialogue with employees in each manufacturing section.

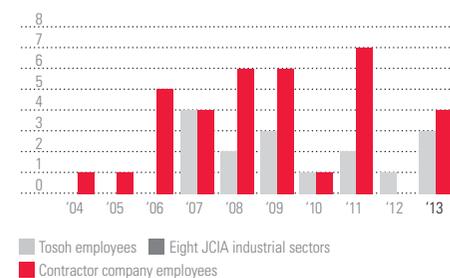
Comparative Occurrence Rates



Comparative Severity Rates



Number of Lost-time Incidents Resulting in Lost Workdays (No. of Incidents)



IMPROVEMENT OF WORK ENVIRONMENTS

Tosoh works hard to protect its employees from exposure to substances that may harm their health. We monitor and manage the time that workers are exposed to harmful substances. Tosoh also endeavors to improve working conditions by taking such protective measures as necessary.

As of January 2013, Tosoh is required to carry out special health screening for employees exposed to indium in accordance with the revision of the Ordinance on Prevention of Hazards due to Specified Chemical Substances. Monitoring for all health hazards in work environments will become an obligation under the ordinance as of January 2014. The company implemented this requirement ahead of the deadline.

ENSURING CHEMICAL AND PRODUCT SAFETY

Because chemicals can potentially negatively affect the environment and people's health, their use needs to be properly managed from the R&D stage through the manufacturing and final disposal stages. The Strategic Approach to International Chemicals Management (SAICM) has been endorsed by the United Nations as a policy framework for promoting chemical safety worldwide.

The SAICM's goals for the international management of chemicals are being pursued at the UN, country, and chemical industry levels. Among other supportive actions, the International Council of Chemical Associations (ICCA) has tabled a Responsible Care Global Charter in connection with the SAICM framework. Through this charter and the execution of the Global Product Strategy (GPS), the supply chain and the management of chemicals are being strengthened.

.....
Enhancing chemical and product safety is a foremost aim at Tosoh.
.....

MANAGING CHEMICAL SUBSTANCES

Tosoh collects data on and evaluates substances to promote chemical safety. We also participate in the Japan Initiative of Product Stewardship (JIPS), a voluntary movement established by the Japan Chemical Industry Association. Under JIPS, Tosoh scientifically assesses the risks of specific chemical substances and, based on that assessment, determines appropriate management methods and reports to society at large on the safety of those specific chemical substances. JIPS's goals are to strengthen the control of chemical substances throughout the overall supply chain to minimize the risks involved.

COMPLYING WITH CHEMICAL SUBSTANCE CONTROL REGULATIONS

When launching products with new substances, companies must notify, register, and submit volume notifications with each country for which the product is intended in accordance with each country's regulations. And under Europe's Registration, Evaluation, Authorization, and Restriction of Chemicals, or REACH, regulation, companies must also register safety assessment data for substances already in use.

IMPROVING CLASSIFICATION AND LABELING

Enhancing chemical and product safety is a foremost aim at Tosoh. In this regard, we generate and manage material substance data sheets (MSDS's) and labeling in compliance with the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals. Many countries are revising their laws concerning MSDS's and the labeling of products, so we are having to comply with local laws and languages in the distribution of MSDS's and in product labeling. In compliance with the recommendations of the Joint Article Management Promotion-consortium (JAMP) for their MSDSplus basic information transmission sheet, we also are providing information on our supply chain.

SCREENING PRODUCTS

Tosoh has formulated regulations concerning product safety screening based on a fundamental product safety policy aimed at reducing product liability risk. Screening is done to check the safety and legal compliance of products using quality control methods at four stages, starting from product development. The R&D, Manufacturing, Sales, and Quality Control Divisions carry out the screening process. We conducted product safety screening 59 times in fiscal 2013.

EMPHASIZING QUALITY ASSURANCE AND LOGISTICS SAFETY MEASURES

Tosoh has achieved ISO 9001 certification for its Nanyo and Yokkaichi Complexes as part of its efforts to improve product quality and to reduce the number of claims against its products. The company has similarly gained the ISO 13485 certification required in its Bioscience Division for medical devices and for establishing a management system to ensure the efficacy and safety of medical products in accordance with Japan's Pharmaceutical Affairs Act.

The logistics departments of our chemical complexes, meanwhile, collaborate with Tosoh Logistics Corporation to carry out training sessions to deal with possible transportation accidents. In addition, Tosoh strives for safe transportation practices by conducting safety education and safety patrol activities with affiliate companies.

TOSOH'S COMPLIANCE WITH OVERSEAS CHEMICAL SUBSTANCE MANAGEMENT REGULATIONS

Submissions and Registrations		Classification and Labeling ((M)SDS and Labeling	
EU	REACH	<ul style="list-style-type: none"> • First-phase registration (end of November 2010) compliance completed • Second-phase registration (end of May 2013) compliance completed 	GHS in each country <ul style="list-style-type: none"> • Taiwan: second-phase substance MSDS and labeling (end of December 2011) compliance completed • China: safety data sheet and labeling (end of November 2011) compliance completed • Korea: mixture compound MSDS and labeling (end of June 2013) compliance ongoing • Thailand: individual compound SDS and labeling (end of March 2013) compliance completed
Asia	Chemical substance management regulations of each country	<ul style="list-style-type: none"> • Upgrading compliance as revisions are made to laws 	

SOCIETY

Tosoh seeks to deepen its relationships with stakeholders with the aim of being a company with which everyone wants to interact.



We actively cultivate communications activities with residents near our operations and with various other stakeholders. Through the opportunities that we foster for opinion exchange with the public, we listen to people's points of view and work to improve our activities. That sense of caring is embedded in all our social contribution activities. Tosoh is committed to being a business group that people can trust.

ENGAGING IN COMPANY TOURS AND VOLUNTEER WORK

Tosoh opens its operations to students, the general public, and public officials with plant tours. And as conscientious members of the communities surrounding our facilities, our employees and their families voluntarily participate in cleanup programs at our plants and in the surrounding communities.

SUPPORTING THE DEVELOPMENT OF YOUNG PEOPLE

Tosoh contributes to the development of the youth who will be responsible for the future through its support for or sponsorship of a number of annual events. Each year, for example, we sponsor the Tosoh Cup Boys' Soccer Tournament and the Tosoh Cup Shunan Boys' Rubber Baseball Team Tournament.

The company also grants internships to high school, technical college, and university students. This gives students practical experience in the workplace and helps them decide on career paths. Tosoh even exhibited at the Yokkaichi City Children's Science Seminar, during which it offered children the chance to use EVA beads to make original drink coasters.

Further afield, the music club at our Yokkaichi Complex participated in volunteer concert activities in Thailand. Club members used the opportunity to interact with the children and other residents of the Thai villages they visited.

COMMUNICATING WITH LOCAL RESIDENTS

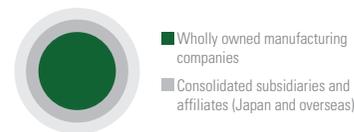
Tosoh and other chemical companies in local chemical complexes met with the public at the 8th Eastern Yamaguchi Responsible Care Talks. The talks aim to inform the public of the companies' occupational safety and disaster prevention and environmental protection activities. A new feature of the meeting was the providing of answers to a pre-meeting questionnaire prepared by residents.

RESPONSIBLE CARE 2013 OUTLINE

Tosoh has followed the 2012 *Environmental Report Guidelines* of the Ministry of the Environment in producing this RC report.

Period covered: April 2012 to March 2013 (a portion of the information also refers to fiscal 2014)

Companies covered: Unless otherwise indicated, the information in this RC report applies only to the parent company. The performance data on page 39 is for 18 manufacturing companies of the Tosoh Group in Japan. The information on other activities includes all consolidated subsidiaries and affiliates.



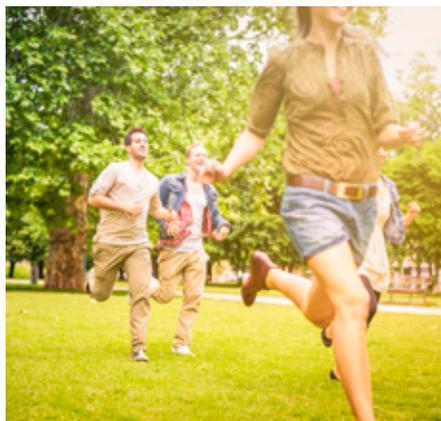
Published: July 2013
 Previous issue published in October 2012; next issue scheduled for July 2014.

Tosoh AIA, Inc.
 Tosoh SGM Corporation
 Tosoh F-TECH, Inc.
 Tosoh Quartz Corporation
 Tosoh Silica Corporation
 Tosoh Speciality Materials Corporation
 Tosoh Zeolum, Inc.
 Tosoh Ceramics Co., Ltd.
 Tosoh Hi-Tec, Inc.

Tosoh Hyuga Corporation
 Tosoh Finechem Corporation
 Tosoh Organic Chemical Co., Ltd.
 Tohoku Tosoh Chemical Co., Ltd.
 Toyo Polymer Co., Ltd.
 Hokuetsu Kasei Co., Ltd.
 Rinkagaku Kogyo Co., Ltd.
 Lonseal Corporation
 Nippon Polyurethane Industry Co., Ltd.

EXPANDED RC ACTIVITIES

We nurture activities in the workplace to support sustainable growth for all.



Communicating with local residents and communities is a vital component of our RC activities. To promote a greater understanding of our operations, we conduct face-to-face events to exchange opinions. And we have recently added to our community-based events such biodiversity preservation activities as preserving unpopulated woodlands in cooperation with a nonprofit organization (NPO).

In the following section, we introduce RC activities headed up by young employees at our Nanyo Complex. We also discuss RC activities at our Yokkaichi Complex carried out in collaboration with other companies at the chemical complex.

SEEING YOUNG EMPLOYEES LEAD THE WAY: TRY! ACTIVITIES

TRY!, which stands for Tosoh Responsible Care Youth, encompasses local RC activities started by young employees at the Nanyo Complex in 2011. The program involves operations-wide volunteer social contribution activities with the collaboration of the Nanyo Complex's Environmental, Administrative, and Personnel Departments. The activities are led by a team of young employees who aim to increase an awareness of environmental and safety issues, nurture corporate culture, and even develop human resources by encouraging personal autonomy.

EXCHANGING OPINIONS ON RC ACTIVITIES WITH HIGH SCHOOL STUDENTS

One of the TRY! activities in fiscal 2013 saw Nanyo Complex employees continue to engage with students at Shin Nanyo Technical High School. The employees introduced their RC activities and exchanged opinions with the students. On the same day, the employees also joined the students of Shin-Nanyo High School and local volunteers in sweeping up fallen leaves for use in making compost.

DERIVING NEW POWER FROM COLLABORATION WITH COMMUNITIES: KIEPS ACTIVITIES

KEIPS is an acronym for Kasumi Island Environmental Plan. That plan was developed by the Kasumigaura Regional Environmental Promotion Association, which comprises 21 companies from chemical complexes in the Kasumi area and representatives from the local communities.

The Kasumigaura Regional Environmental Promotion Association introduced KEIPS in March 2008. KIEPS has received numerous awards, including the Japan Environmental Management Awards' Environmental Value Creation Prize in 2011 and the Japan Association for Human and Environmental Symbiosis's Human and Environmental Symbiosis Activities Award in 2012.



HEIGHTENING CORPORATE VIABILITY THROUGH SOUND OVERSIGHT

Tosoh believes that thorough corporate governance over the long term increases corporate value and contributes to corporate growth.

Accordingly, Tosoh practices robust corporate governance that optimizes transparency, compliance, business performance, and operational efficiency.

MANAGEMENT REPORTING

Tosoh's 13-member Board of Directors meets monthly to decide business matters and to review its oversight of managers with operational responsibilities. The Executive Committee, comprising the company's chairman, president, and managing directors, meets weekly to facilitate quick decision making on business proposals. The president, moreover, is given detailed briefings on operating conditions and pending decisions at regular, weekly and monthly management reporting meetings.

AUDITORS' COMMITTEE AND AUDITING SECTION

The Board of Auditors monitors Tosoh's accounting system. Its two internal and two external auditors also scrutinize the behavior and business execution of Tosoh's Board of Directors.

The Office of the Board of Auditors is tasked with assisting the corporate auditors. It uses third-party, outside accounting auditors to

obtain independent verification of Tosoh's finances. The Auditing Section, meanwhile, conducts operational audits of Tosoh's business units and group companies and reports its findings to the company's president.

OTHER GOVERNANCE COMMITTEES

Additional governance committees include the Compliance, Antitrust, Internal Control, and Responsible Care Committees.

The Compliance Committee identifies external laws and regulations and internal guidelines and oversees related compliance, including training, by the Tosoh Group.

The Antitrust Committee collaborates with Tosoh's Legal and Patent Department to ensure that fair business practices as defined by the Antitrust Law of Japan and by Tosoh's internal guidelines are observed.

In Japan, legislation requires companies to establish corporate internal controls to support accurate and reliable financial reporting. Tosoh's Internal Control Committee fosters group-wide awareness of and compliance with the legal guidelines for these internal controls.

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Forward-looking statements

This annual report contains estimates, projections, and other forward-looking statements, which are subject to unforeseeable risks and uncertainties. Readers should understand that Tosoh's business and financial results could differ significantly from management's estimates and projections.

Eleven-Year Financial Summary

Fiscal Years	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
	(Millions of Yen)										
Net sales	471,921	484,389	588,332	648,810	781,347	827,395	733,506	628,706	684,399	687,131	668,494
Operating income (loss)	28,048	30,055	56,899	47,460	60,279	59,108	(20,314)	13,047	33,532	23,737	24,464
Net income (loss)	4,809	7,297	29,533	27,533	28,488	25,183	(25,262)	6,890	10,015	9,379	16,867
Current assets	225,908	235,227	272,278	295,664	370,198	377,465	357,216	354,719	372,227	380,895	411,111
Fixed assets	319,789	313,986	330,931	341,813	418,320	439,529	405,580	384,940	353,691	327,827	323,991
Current liabilities	273,701	262,541	283,691	287,968	357,674	373,551	334,488	342,302	332,428	334,934	366,460
Long-term debt	125,797	140,419	137,740	133,722	169,965	170,010	212,194	178,079	168,251	145,058	122,685
Other long-term liabilities	33,032	25,714	29,337	30,585	33,110	31,071	30,233	28,380	31,726	28,532	26,671
Shareholders' equity	92,795	99,238	127,993	159,112	184,974*	198,607*	155,013	162,500	164,751	171,068	188,748
	(Yen)										
Net income (loss) per share	7.87	11.96	49.09	45.74	47.60	42.05	(42.20)	11.51	16.74	15.67	28.17
Book value per share	154.93	165.67	213.79	265.75	308.81	331.69	258.98	271.59	275.35	285.88	315.15
Dividends per share	5	5	6	6	8	8	6	6	6	6	6
	(Percent)										
Operating profit margin	5.9	6.2	9.7	7.3	7.7	7.1	(2.8)	2.1	4.9	3.5	3.7
Net profit margin	1.0	1.5	5.0	4.2	3.6	3.0	(3.4)	1.1	1.5	1.4	2.5
Return on equity	5.2	7.6	26.0	19.2	16.6	13.1	(14.3)	4.3	6.1	5.6	9.5
	(Percent/Times)										
Equity ratio (percent)	17.0	18.1	21.2	25.0	23.5	24.3	20.3	22.0	22.7	24.1	25.7
Interest coverage ratio (times)	5.1	6.6	13.9	12.4	12.4	9.8	(2.8)	2.1	6.3	5.1	6.0
	(Times)										
Fixed assets turnover	1.5	1.5	1.8	1.9	1.9	1.9	1.8	1.6	1.9	2.1	2.1
Inventory turnover	7.4	7.0	7.1	7.1	6.8	6.4	6.3	6.1	5.9	5.6	5.2
Collection period (days)	96	101	95	92	97	87	78	99	97	88	108

*Indicates a change in accounting treatment

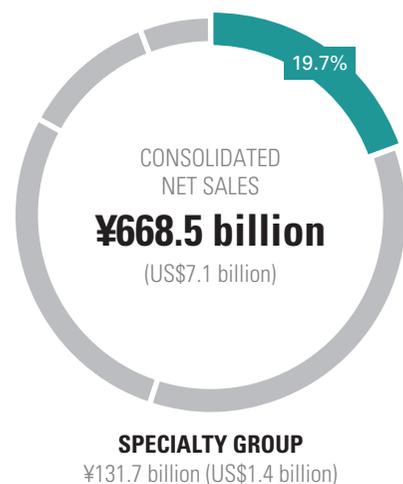
Review of Operations and Management's Discussion and Analysis

SPECIALTY GROUP

The Specialty Group positions Tosoh for growth by promoting product and technology advances among a wide-ranging customer base.

The group has amassed a multifaceted portfolio of high-value-added bioscience, organic chemicals, and advanced materials products that are typically strongly positioned and highly profitable in well-established and growing niche markets. This portfolio, moreover, serves as a hedge against the cyclical nature of Tosoh's commodity operations, thereby preserving the company's overall profitability.

An array of global clients in high-tech industries, ranging from pharmaceuticals and health care to semiconductors, consumer electronics, and automobiles, depend on the Specialty Group to supply them with its sophisticated, specialized product offerings. The group's clientele includes emerging businesses whose success hinges on the group's ongoing development of offerings to fuel their progress.



TOSOH'S GLOBALIZATION GIVES RISE TO SPECIALTY GROUP

The Specialty Group sprang from the globalization that Tosoh began in the 1960s. Like all commodity chemicals manufacturers, Tosoh faced the perennial challenge of cyclicity caused by the continuous leapfrogging of demand and capacity. So the company launched a lineup of specialty products that allowed it to tap growing markets for such products worldwide and to thereby offset the cyclical nature of its commodity operations.

The Specialty Group contributes to progress in numerous countries with products for customers in the semiconductor, consumer electronics, pharmaceuticals, bioscience, automotive, and health care industries. Its goal is to continue to break technological ground. The Specialty Group seeks to further the presence of its products in established markets and to gain a place for its products in emerging markets.

Group Performance and Markets

Fiscal 2013 net sales for the Specialty Group amounted to ¥131.7 billion (US\$1.4 billion), a decrease of 2.6% from the previous year's

figure. The group's contribution to Tosoh's consolidated net sales remained the same as in fiscal 2012, at 19.7%.

The Specialty Group contributes to progress in numerous countries with products for customers in the semiconductor, consumer electronics, pharmaceuticals, bioscience, automotive, and health care industries.

The trend in the Specialty Group's markets was a contraction in demand caused by stagnation and slowdowns in economies around the world, including Japan's. Sales, however, were mixed among the group's products.

The Specialty Group's operating income dropped ¥4.1 billion from fiscal 2012, to ¥9.0 billion (US\$95.5 million). Its decline in profitability notwithstanding, the Specialty Group still contributed 36.7% of Tosoh's consolidated operating income.

ORGANIC CHEMICALS

The Specialty Group's Organic Chemicals Division produces organic chemicals that find application in pharmaceuticals, agrochemicals, electronics, petrochemicals, urethane polymers, specialty coatings, and many other products. Tosoh, notably, holds the top share of the Asian market for ethyleneamines and significant shares of the Japanese market for bromine, flame retardants, and industrial cleaning solvents. To stay ahead of the competition, Tosoh seeks to maintain strong or dominant positions in selective markets by continually shifting toward competitive, high-grade products.

ETHYLENEAMINES AND THEIR DERIVATIVES

Ethyleneamines are commonly used as building blocks in the chemical synthesis of products with value-added features. They and their derivatives are widespread in epoxy hardeners, wet-strength resins for paper, chelates, pharmaceutical and agrochemical intermediates, and industrial chemicals.

Ethyleneamines are produced from ethylene dichloride (EDC), ammonia, and caustic soda. Because Tosoh is Japan's largest producer of EDC and caustic soda, it stands to reason that it would be a leading supplier of ethyleneamines in Asia and globally. Delamine B.V., the company's joint venture with Akzo Nobel, in the Netherlands, is the biggest single-line, EDC-based ethyleneamine company in the world. It exports ethyleneamines to over 50 countries.

In fiscal 2012, moreover, Tosoh boosted its ethyleneamine production capacity in Japan to 89,000 metric tons annually. Tosoh has therefore strategically embarked on a course to become one of the world's largest producers of ethyleneamines.

Tosoh expects to complete its shift to a high molecular weight amine manufacturing structure in fiscal year 2014.

Tosoh, meanwhile, is the leading supplier in Japan of heavy metal chelates and ethyleneamine derivatives. Elsewhere in Asia, the company holds major shares of the markets for bulk ethylenediamine (EDA) and for high molecular weight amines, such as diethylenetriamine (DETA) and triethylenetetramine (TETA). Other of the company's Specialty Group's products popular in Japan and overseas are triethylenediamine (TEDA) and Toyocat catalysts for polyurethane production.

Tosoh expects to complete its shift to a high molecular weight amine manufacturing structure in fiscal year 2014. It also will continue to expand its global ethyleneamine derivative network, including its technical support services, and is developing a broader range of product grades to attract more customers.

Performance and Markets

Global economic movements in fiscal 2013 triggered some growth in demand for ethyleneamines compared with the previous fiscal year. But overall there was no improvement to the large gap in the worldwide demand-supply balance. Supply capacity expansion by Tosoh's major competitors is complete, but further expansion is scheduled in the Middle East soon.

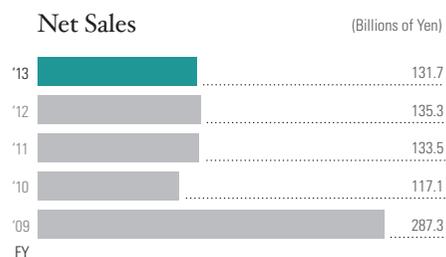
Demand for TEDA and Toyocat for polyurethane (PU) production and non-PU applications remained firm domestically and overseas. Intense competition, particularly in Asia, has driven down prices, but the market for these products is now considered to have bottomed out.

Developments

As part of its efforts to expand its global position in the ethyleneamine derivative market, Tosoh is moving forward with the development of processes to increase its use of ethyleneamines in its production lines.

In response to environmental concerns, the Specialty Group is developing emission-free reactive amine catalysts. These products will target specialty grades to be used for the automobile, furniture, and other industries.

In addition, Tosoh is proceeding with plans to commercialize its production of the environmentally friendly reactive TEDA, specifically



for the automobile and furniture markets. Production is scheduled to come onstream in the first half of fiscal 2015 for markets whose size is estimated to be 1,500 metric tons annually. Customer evaluations of the product are well under way.

Strategies and Outlook

In fiscal 2013, Tosoh's sales efforts remained focused on high molecular weight amines. The global supply of EDA has increased and will continue to do so, as various EDA plants have come onstream worldwide and others are in the planning stages. Tosoh, though, will continue to leverage its position as an EDC-based amine producer to differentiate its products in the market.

We will expand our sales of ethyleneamine, particularly in Asia, while carefully watching demand and price movements. In Europe and North America, we will concentrate on increasing our brand recognition while boosting our market share. We will adjust our product mix in favor of high molecular weight amines based on market trends. Long term, Tosoh intends to be the leading global supplier of amines.

We are, meanwhile, taking all the steps needed to expand our TEDA and Toyocat operations globally. The company is considering such strategies as working to increase its share of growing markets for PU and non-PU applications, continuously develop-

ing new products, and optimizing processes for better cost-competitiveness and production efficiency.

In addition, Tosoh is developing and commercializing a high-performance amine catalyst that reduces amine emissions. PU producers are becoming more concerned about emissions. So we anticipate that the advantages of our new product and production facility will significantly increase our presence as an eco-friendly company.

BROMINE AND BROMINATED DERIVATIVES

Tosoh is strengthening its position in bromine and its related compounds throughout Asia based on its strength as Japan's sole producer of bromine. The bromine recycling system at our Nanyo Complex gives us a major advantage. That system recycles bromine from industrial waste generated by the complex's facilities and by third-party sources.

Tosoh utilizes proprietary bromination technology to tap hydrogen bromine and bromine from seawater for the production of diverse derivatives. Among styrene derivatives, Tosoh's sodium p-styrenesulfonate (NaSS) in particular boasts a dominant share of the global market in dye enhancers for acrylic fibers and in reactive emulsifiers. And our bromine-based Flamecut flame retardants transform regular plastics into heat- and flame-resistant plastics.

Performance and Markets

Global bromine demand declined 4% in fiscal 2013 from the previous year. Demand, however, is expected to recover, centered on the Asian market. But any recovery is expected to be slow given the stagnation in Japan's bromine market. Domestically, demand for bromine and bromine-based flame retardants peaked in 2011 and until recently has been in steady decline. It has finally bottomed out, so we hope for a reversal in market trends toward growth in demand.

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Tosoh is strengthening its position in bromine and its related compounds throughout Asia based on its strength as Japan's sole producer of bromine.
.....

Among the long-term issues that Tosoh must contend with are stricter industrial standards for the use of bromine-based products. We expect a steady phasing out of some products by automotive and other manufacturers, including decabromodiphenyl ether (DBDE) and n-Propyl bromide (NPB).

Strategies and Outlook

Tosoh's medium-term strategy for its bromine and brominated derivatives products is to remain competitive by expanding product sales and reducing costs.

In December 2009, the US Environmental Protection Agency (EPA) and America's big three automotive companies announced the domestic phasing out of DBDE. Japanese automobile manufacturers, therefore, are looking at decabromodiphenyl ethane as an alternative bromine-based flame retardant for their US export models.

Tosoh Group companies, meanwhile, continue to cooperate among themselves and with university and other external research facilities in developing demand in the bromine market. How to expand sales of brominated derivatives remains an ongoing issue.

ECO-BUSINESS

The Organic Chemicals Division's Eco-business Department has established a strong lineup of environmental products. Its environmentally friendly solvents meet a variety of cleaning needs, and its chelating agents render heavy metals from incinerator waste insoluble and therefore harmless. Chelating agent TS-300, for example, sharply reduces the volume of lead, cadmium, mercury, and copper generated from the fly and combustion ash produced in the trash incineration process.

The Eco-business Department recently launched sales of TF-20, a minimally corrosive agent that targets hexavalent chromium and is for use in treating incineration ash, soil, and sewage water. Used with organic chelates, it

can extract a variety of heavy metals from incineration ash in a single process.

Tosoh is beginning to make inroads into China's heavy metal chelating market. China's market is growing faster than Japan's mature market and is on course to outstrip the Japanese market over the medium term despite the recent slowdown in China's economy. And China's emission standards are already stricter than Japan's for some heavy metals.

Performance and Markets

In fiscal 2013, eco-business was once again a stable and reliable annual contributor to the profitability of Tosoh's Organic Chemicals Division.

In Japan, the growing use of eco-cement and the conversion to urban mining methods to recover nonferrous metals from molten fly ash have hampered domestic sales of Tosoh's heavy metal chelating agents. The company's incinerator waste treatment agents likewise are experiencing lower domestic demand amid heightened environmental conservation efforts that generate less waste. A growing emphasis on product price rather than functional quality also has contributed to a downward trend in the domestic market.

Tosoh's domestic hydrocarbon-based and nonflammable cleaning solvents market contracted about 20% during fiscal 2013 because of the continued recession. Other negative

factors in the market included slow growth in new demand because of postponed capital investment.

Developments

Tosoh has decided to terminate sales of its bromine-based NFS series of cleaning solvents. The decision comes amid the increasing replacement by industry of such solvents with more environmentally friendly substitutes. Sales of the NFS series are scheduled to end December 31, 2013. As an alternative to the NSF series, Tosoh is launching its recently developed HA-IS16 cleaner. HA-IS16 is an environmentally friendly, non-halogen, nonflammable cleaning solvent offering superior cleansing, drying, recovery, and safety properties.

Strategies and Outlook

Tosoh's long-term eco-business strategy is twofold. The company will continue to make piperazine-based agents its core environmental product line and will reinforce its competitiveness in the environmental and recycling market and "top-of-the-line" brand category. Tosoh will seek to maintain its reputation as a manufacturer of high-performance hydrocarbon-based (HC series) and nonflammable (HA series) cleaning solvents.

To cope with a contracting domestic market for its eco-business products and services, Tosoh is turning to China and other Asian countries for growth. Chinese regulations are driving growth

in trash incineration, and China's heavy metal chelating agent market is set to grow in the medium term to deal with the large increase in fly ash production in that country.

The company will continue to make piperazine-based agents its core environmental product line and will reinforce its competitiveness in the environmental and recycling market and "top-of-the-line" brand category.

In fiscal 2014, Tosoh will focus on developing and launching products in the environmental and recycling markets. The company plans to use exhibitions, demonstrations, testing programs, and other methods to promote its high-performance HC series domestically and overseas. Tosoh will also build a demonstration center where it will promote the HA series and collaborate with cleaning system manufacturers in promotions. The new demonstration center is expected to support new product development efforts focused on shower- and flux-grade cleaning solvents.

ORGANIC ELECTROLUMINESCENCE MATERIALS

Tosoh entered the electroluminescence (EL) materials market in fiscal 2011. The company

has offset its late entrance into the market by offering products that are exceptionally bright, long-lived, durable, and low in energy requirements. Electron transport materials and hole transport EL materials are made from amine chemical compounds.

Tosoh's strategy for EL materials began with the production of EL materials for digital signs and for lighting. The next step is to move into the rapidly expanding market for the organic EL panels used in displays for mobile phones, televisions, and other devices.

Performance and Markets

During the fiscal year under review, the global EL materials market continued its rapid expansion and was again dominated by Korean manufacturers. In scale, the hole transport layer (HTL) materials market totaled about 20,000 kilograms, while the electron transport layer (ETL) materials market grew to 4,000 kilograms.

Strategies and Outlook

Tosoh will continue to accelerate its development of high-quality products to differentiate itself in the global marketplace. Because of Korea's dominance in EL materials, we established an organic EL project team in October 2012 to promote our products to the Korean market. Domestically, Tosoh is steadily expanding its business in the digital sign and lighting market and monitoring

ORGANIC CHEMICALS

Products <i>Brand Names</i>	Capacity (MTY*)	Markets Served	Applications
Ethyleneamines and derivatives	71,000	Europe, Asia, NA	Asphalt additives, oil and fuel additives, chelating agents, plastic lubricants, anticorrosion agents, polyamide resins, drainage aids, rubber-processing additives, pharmaceuticals, surfactants, epoxy-curing agents, textile additives, fabric softeners, urethane chemicals, hydrocarbon purification, wet-strength resins for paper, mineral processing
Methylene diphenyl diisocyanate	400,000		Polyurethane
Polyurethane catalysts <i>TEDA, Toyocat®</i>		Europe, Asia, Japan, NA, SA	Flexible, semirigid, and rigid polyurethane foams; elastomers
Bromine	24,000	Japan	Pharmaceuticals, photosensitive materials, dyes
Hydrobromic acid		Asia, Japan	Organic intermediates, pharmaceuticals, photosensitive materials, dyes, lithium bromide, terephthalic acid
Flame retardants <i>FLAMECUT®, 110R®, 120G®</i>		Asia, Japan	Plastics, fabrics
Chelating agents <i>TS-275, TX-10</i>		Japan	Systems for removing heavy metals and other pollutants from water
Solvents		Europe, Asia, Japan, NA	Cleansing agents for electronic components, metals, and other items
High-purity ethylene dichloride		Asia, Japan	Pharmaceuticals, agricultural chemicals
2,2,2-Trifluoroethanol		Europe, Asia, Japan, NA	Pharmaceuticals, agricultural chemicals
Organometallic reagents		Asia, Japan	Pharmaceuticals, electronics
Sodium styrenesulfonate		Europe, Asia, Japan, NA	Dye-improving agents for acrylic and polyester textiles, industrial and electronic applications
Organic brominated compounds		Europe, Asia, Japan, NA	Pharmaceuticals, agricultural chemicals
Alkyl aluminums		Asia, Japan	Polyethylene, polypropylene, synthetic rubber

*Metric tons per year

Japanese TV manufacturers' plans to break into the EL market.

ADVANCED MATERIALS

Tosoh established the Advanced Materials Division within its Specialty Group in June 2010 to capitalize on Tosoh Group strengths in advanced inorganic materials through more focused management and development. In February 2012, the company followed suit with announcements of production capacity expansions in Japan of major advanced materials product categories.

The Advanced Materials Division's zirconia powders, zeolites, electrolytic manganese dioxide (EMD), sputtering targets, and quartz and quartzware products have excellent repu-

tations around the world. And the high-tech and niche markets where these products are applied offer ample room for growth. The division's product development and marketing strategies concentrate on markets where Tosoh has a clear competitive edge.

Strategies and Outlook

In fiscal 2013, Tosoh substantially strengthened its advanced materials operations. We boosted our domestic production capacities in various product areas to take advantage of strong growth opportunities arising from evolving industries and changing standards globally. Tosoh also continued to implement cost reduction and additional strategies to ensure its competitiveness in niche and other markets.

ZIRCONIA AND ZEOLITES

Tosoh is the world's leading supplier of yttria-stabilized zirconia (YSZ). This product offers the functionality of conventional ceramics but lacks their brittleness and is commonly referred to as ceramic steel.

We boosted our domestic production capacities in various product areas to take advantage of strong growth opportunities arising from evolving industries and changing standards globally.

Zirconia's properties make it a standard material in fiber-optic connectors. The superior functionality of zirconia powers a stream of applications in fuel cell components, automobile oxygen sensors, dental applications, and other products. Tosoh works with customers to develop those applications. We have, in fact, expanded our product lineup for this versatile ceramic to include powdered and colored grades, injection molding compounds, and machined components.

Tosoh's synthetic zeolite products, meanwhile, feature superior catalytic and adsorbent properties. Our high-silica zeolite (HSZ) series boasts high thermal and acid stability and, as a main catalyst product line, has helped to enlarge our position in specialty materials globally. HSZ series products are popular as

ADVANCED MATERIALS

Products <i>Brand Names</i>	Capacity (MTY*)	Markets Served	Applications
Zirconia		Europe, Asia, Japan, NA	Ceramics for optical-fiber connectors, mechanical components, electronic components, wristwatches, grinding media, dental applications
Electrolytic manganese dioxide	64,000	Europe, Asia, Japan, NA	Dry cell batteries, soft ferrites
Manganous manganic oxide <i>Brownox®</i>		Europe, Asia, Japan, NA	Ferrites, thermistors
Zeolites		Europe, Asia, Japan, NA	Molecular sieves, automotive catalytic converters, other catalytic applications

*Metric tons per year

materials that go into petroleum-refining catalysts for hydrocracking, isomerization, and dewaxing; in petrochemical catalysts for alkylation and isomerization; in removers of VOCs; and in catalyst components for cleaners of automobile exhaust.

Our Zeolum line of zeolites features molecular sieves of varying grades. Each has powerful specific adsorption properties. Zeolum sieves are suitable for drying, purifying, and separating a wide variety of feedstocks. Zeolum NSA, for example, is a lithium, LSX-type zeolite that we recently introduced. It utilizes heightened aluminum content to achieve high nitrogen adsorption. This makes Zeolum NSA especially suitable for use in oxygen pressure swing adsorption (PSA) systems. Tosoh strives to develop zeolite products that meet all of its customers' adsorption, separation, and purification requirements.

The popularity particularly of Tosoh's zirconia and HSZ has compelled the company to significantly increase production capacity for these high-performance materials—in 2009, and again in 2013. Our most recent expansion of HSZ production at the Nanyo Complex, announced in May 2013, puts production firmly in place at our two main Japanese complexes and reduces the risk of supply interruptions. Tosoh's total annual production capacity for zirconia and for HSZ continues to increase to meet growing demand. We will continue

to expand our production capacity to stay abreast of surging demand.

Performance and Markets

Tosoh's shipments of zirconia increased in fiscal 2013 following the company's expansion of production capacity in fiscal 2012. The major uses for the product were in dental materials and grinding media.

The dental market is a leading user of zirconia products, chiefly for crowns, bridges, and other appliances. Globally, Tosoh has positioned itself advantageously in the market with a translucent grade of zirconia. The product is ideally suited for use in front teeth and in teeth-whitening treatments because of its superior cosmetic qualities.

In fiscal 2013, world markets again demonstrated strong demand for high-silica zeolites for use in the catalytic converters of automobile emission systems. HSZ sales were thus up. Governments worldwide are intent on raising automobile emission standards, so high-silica zeolites seem likely to remain a high-growth market in the medium term. Demand, moreover, is broadly based in different product lines. In advanced countries, stricter standards will heighten demand for NO_x-reducing catalysts. Rising emission standards in developing countries will raise demand for zeolites for cleaning automobile emissions.

Strategies and Outlook

Tosoh is well positioned to continue the expansion of its zirconia operations. We are developing increasingly durable and colored decorative fine ceramics for use in smartphones, luxury watches, and automotive interior components. We also are preparing the way for heightened sales of zirconia for dental uses by introducing new products, such as translucent and colored materials, that differentiate us in the market. We are, in short, staying ahead of the competition by remaining aware of such important concerns as obtaining stable supplies of raw materials, reducing manufacturing costs, increasing production capacity as necessary, and introducing new types of fabricated products.

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Tosoh is expanding its line of HSZ products to meet rising demand from the automotive, oil and energy, and environmental industries.
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In our zeolite operations, we are targeting growth through a strategy that shifts our domestic production toward more high-performance products. We are ensuring, for example, that our molded zeolite product line encompasses more than just molecular sieves and includes HSZ products. In addition, Tosoh is expanding its line of HSZ

products to meet rising demand from the automotive, oil and energy, and environmental industries. We intend overall to put in place world-class HSZ production capacity to meet market needs.

ELECTROLYTIC MANGANESE DIOXIDE

Tosoh is the world's largest producer of EMD for batteries. EMD is a basic raw material used in the manufacture of primary batteries and of cathodes for rechargeable batteries.

In February 2012, Tosoh announced its development of technology to produce chemical manganese oxide (CMO). The new technology allows the production of a basic raw material for batteries that is more uniform and has fewer contaminants than EMD. The chemical process allows control of the particle formation and its size, eliminating the need for electrolytic cells and pulverizers. Such uniform and pure particles benefit the needs of cathodes for lithium-ion secondary batteries for electric vehicles, where safety and high current discharge are required.

Tosoh Corporation has licensed its new production technology to its subsidiary Tosoh Hyuga Corporation. Tosoh Hyuga will use the technology to produce CMO and has built a plant with a 5,000-metric-ton annual capacity for that purpose. Tosoh plans to develop advanced grades of CMO for the growing lithium-ion battery market.

Performance and Markets

EMD sales declined during the period under review, mainly because of inventory adjustments of dry cell batteries. In general, EMD shipment levels are declining because of changes in the dry cell battery market. The shift to energy-efficient light-emitting diode (LED) flashlights, for example, has resulted in a reduction in the use of large batteries. Similarly, the surge in the popularity of mobile phone games has put a significant dent in the dedicated handheld video game console market, reducing battery consumption.

The strong yen in the year under review, moreover, allowed EMD imports to gain market share in Japan. But that trend has reversed, and domestic EMD production is recovering. Overall demand for EMD is forecast to remain stable, albeit at the present low levels.

The shift to electric vehicles (EV) and plug-in hybrid vehicles (PHEV) is under way in the automotive industry. And Tosoh is taking steps to ensure its share of the

surging market for rechargeable lithium-ion batteries, which are becoming increasingly important value-added components of automobiles and electronic products. We have ramped up our R&D activity in this respect and are focused on launching materials for application in this market.

Strategies and Outlook

Tosoh intends to establish itself as a major producer of manganese-based cathode materials. Our product lines will encompass EMD and CMO for the dry cell and secondary battery markets. And we plan to grow globally, beginning by expanding beyond our two EMD production bases in Japan and Greece. We must, though, attend to such crucial issues as how to meet the needs of customers with facilities overseas and how to compete with Chinese manufacturers.

In the short term, Tosoh will take advantage of the yen's depreciation to recapture its domestic EMD market share from imports

while aggressively pursuing exports. Long term, we will continue to position ourselves in the steadily expanding EV and PHEV markets. Our efforts in this regard include plans to expand our second- and third-stage CMO production capacity and to develop improved grades of CMO and other next-generation cathode materials.

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In the short term, Tosoh will take advantage of the yen's depreciation to recapture its domestic EMD market share from imports while aggressively pursuing exports.

THIN FILM MATERIALS AND QUARTZ

Tosoh's efforts on the high-tech frontier are similarly adventuresome. We are constantly developing new products and solutions to provide to the world's high-growth semicon-

ductor, flat-panel display (FPD), photovoltaic (PV), and materials markets.

Our thin film materials lineup, which consists primarily of sputtering targets, includes many products used by semiconductor, FPD, and PV fabrication facilities. And our integrated quartz, or silica glass, business supplies photomasks, substrates, and other parts and materials to the world's major semiconductor and optical markets and to its many niche markets.

Tosoh has an integrated chain of electronic materials manufacturing and marketing bases in Japan, Taiwan, South Korea, Singapore, China, the United States, and the European Union. This supply and customer services network ensures that our products meet customer specifications and delivery needs globally. It also strengthens our ties with the world's leading semiconductor, FPD, and PV makers. Those relationships enable us to work with customers on next-generation products.

ELECTRONIC MATERIALS

Products	Markets Served	Applications
Silica glass	Europe, Asia, Japan, NA	Production systems for semiconductors and LCDs, electronic components
Sputtering targets	Europe, Asia, Japan, NA	Manufacturing of semiconductor devices, photovoltaic cells, flat-panel displays
High-purity organometallics	Europe, Asia, Japan, NA	Lasers, flat-panel displays, semiconductor devices, solar battery electrodes

Tosoh is developing technologies for such next-generation products as 22-nanometer and smaller node-level IC chips and large FPDs. We are also focusing on products for space optics, energy conservation, and quartz microchips for biomedical applications that are unaffected by the semiconductor cycle.

We plan to maximize the profits from our quartz products by giving preference to markets where we have an advantage.

Other of our efforts include the following. We are developing an oversized quartz ingot for ultralarge FPDs. We are commercializing chemical vapor deposition (CVD) and low-temperature coating technologies for thin film products for semiconductor applications. And we are developing cylindrical target materials for use in transparent electrodes for FPDs and in photovoltaic power generation systems for supply to the rapidly expanding solar energy market.

Strategies and Outlook

We are positioning our thin film material operations for growth. Tosoh is working to establish its line of products for 300-millimeter wafer manufacturing while building a

base in the 450-millimeter wafer market. Our strategies involve working with customers from the R&D stage onward, expanding the range of materials that we manufacture in volume, and developing and commercializing advanced materials for state-of-the-art transistors and memory chips.

To support our efforts, we are developing facilities at Tosoh SMD Shanghai Co., Ltd. This sputtering target manufacturing subsidiary in Shanghai, China, expanded US-based Tosoh SMD, Inc.'s global capacity for procurement and supply. It also is helping to build the semiconductor, FPD, solar, and large-area coating markets in China.

We continue, meanwhile, to maintain a high pace of development. This is necessary to meet the increasing demand for special properties in our sputtering targets from the solar cell, tablet and smartphone, touch-panel, organic EL display, and other rapidly growing markets. Manufacturers are searching for lighter, more flexible, and higher-quality materials to fuel their product development. In addition, there is an increasing call for "green" energy sources. We are responding by concentrating on marketing our new indium tin oxide (ITO) and zinc aluminum oxide (AZO) lines and our cylindrical sputtering targets.

We plan to maximize the profits from our quartz products by giving preference to markets where we have an advantage. In the fused silica glass market, we are expanding

sales of cost-competitive transparent components and materials. We also are focusing on improving the properties of our opaque components and materials. Our fabricated quartzware operations are preparing to start the commercial production of our offerings for 450-millimeter wafer manufacturers.

In the optical market, increasing demand for diagnostic equipment in China and other markets is driving growth in demand for original equipment manufacturing (OEM) quartz cells. Tosoh is taking steps to further improve its manufacturing technology and to expand its production capacity to meet that demand. The specialty optical quartz market is a focus at Tosoh. Our aim is to differentiate our large, highly homogenous products and enter high-value-added sectors of this market, such as for laser-driven nuclear fusion and optical equipment.

BIOSCIENCE

Tosoh is a world leader in high-performance liquid chromatography (HPLC) systems, analytical columns, and separation media. We furnish sophisticated diagnostic systems that enable quick and accurate results. Tosoh, in fact, is among only a handful of companies worldwide developing, manufacturing, selling, and providing customer support and maintenance services for medical instruments, analytical columns, separation media, and diagnostic reagents.

Tosoh's diagnostic systems feature advanced immunoassay technologies that support the monitoring of such life-threatening diseases as diabetes, certain cancers, and microbial infections. They also feature integrated essential hardware and software and uncompromising value through global customer support that includes ensuring the ready availability of the systems' consumable items.

We have positioned our bioscience product lines in markets globally through multifaceted strategies. Using internal growth, acquisitions, and strategic alliances, we have established a worldwide sales and service network and acquired access to cutting-edge technologies in fields such as genetic diagnostics. Our bioscience network spans Japan, Europe, and the United States and is expanding into China, India, and other Asian markets. It serves four global markets: separation products, clinical HPLC systems, immunoassay systems, and molecular testing.

In Japan, Tosoh is the top supplier of analytical columns based on sales of its TSK gel HPLC analytical columns, which are also popular worldwide. We have succeeded in building a dominant position in the competitive domestic market for gel permeation chromatography (GPC) and for ion chromatography (IC) products and are extending sales of our GPC products overseas.

Strong global demand has long driven growth in sales of Tosoh's Toyopearl separation media.

Leading biopharmaceutical companies in the United States and Europe are long-term Toyopearl customers, and a growing customer base is emerging in developing countries, including China and India, among others.

The growing market worldwide for our automated immunoassay (AIA) analyzers is rooted in our proprietary technology. Our freeze-drying technology has facilitated our production of sophisticated, fast, easy-to-use, highly sensitive, and extremely precise analyzers, which are in demand. Our range of products includes the AIA-2000, the AIA-900, and the AIA-360. The top-of-the-line AIA-2000 can run 200 tests per hour. The more flexible AIA-900 runs only 90 tests per hour but is available in three models, which allows customers to choose the best fit for their operations now and in the future. As their operations grow,

customers have the option of increasing automation capacity just by adding a larger tray reagent sorter.

The International Diabetes Federation (IDF) has forecast that 1 in 10 adults globally will have diabetes by the end of 2030. Supporting the fight against the rapid spread of diabetes mellitus is a major goal of Tosoh's bioscience operations. Tosoh has become a global leader in the automated glycohemoglobin (GHb) analyzer market. We are focused on building a customer base for our analyzers—the HLC-723G9, sold in Japan, and the HLC-723G8, sold abroad—and their requisite consumables. We have also begun selling the HLC-723GX in Europe and Southeast Asia.

Tosoh has launched a compact TRC Rapid-160 real-time fluorescence monitoring system and

a transcription reverse transcription concerted reaction (TRC) reagent in the nucleic acid amplification testing (NAT) market. The company has also introduced a product that tests for food poisoning and a reagent to test for bacteria that cause tuberculosis.

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Using internal growth, acquisitions, and strategic alliances, we have established a worldwide sales and service network and acquired access to cutting-edge technologies in fields such as genetic diagnostics.

Performance and Markets

Reflecting growing demand globally, the major product lines of our bioscience operations—separation, clinical HPLC, immunodiagnostics, and molecular testing products—posted solid performances in fiscal 2013. Separation product sales were especially robust in liquid chromatography packing materials. Immunodiagnostic product sales continued to expand and accounted for the majority of bioscience sales.

Tosoh has enjoyed strong growth in sales of its AIA systems, but the company has only scratched the surface of the massive global bioscience market. With markets surging in many countries around the world, Tosoh is targeting substantial additional growth for its AIA systems. The markets in China and India are especially attractive and have allowed us to post high, double-digit growth in AIA system sales for some time now.

BIOSCIENCE

Products	Markets Served	Applications
Automated immunoassay systems	Europe, India, Asia, Japan, NA	Medical diagnosis
High-performance liquid chromatography	Europe, Asia, Japan, NA	Chemical and pharmaceutical analysis
Chromatographic separation media	Europe, Asia, Japan, NA	Pharmaceutical development and manufacturing
Automated glycohemoglobin analyzers	Europe, Asia, Japan, NA	Diabetic screening and monitoring
Molecular testing systems	Europe, Japan	Medical diagnosis, pharmaceutical development, food analysis

Separation products and HPLC systems again contributed strongly to bioscience sales. We maintained our leadership position in Japan's market for GPC separation systems.

Strategies and Outlook

Tosoh's vision for its bioscience operations is to be a global player with a major market presence. Our presence in many overseas markets remains undeveloped. To achieve status as a global player, the Tosoh Group is striving to be more competitive in all aspects of its business, including technology, quality guarantees, marketing, and customer support.

Our immediate-term focus in our separation operations is on the biomedical field, to which we intend to expand sales of separation columns and Toyopearl. We will gradually shift our line of columns to ultrahigh-performance liquid chromatography (UHPLC) products, which are rapidly becoming mainstream. Our R&D efforts will also aim at the evolution of GPC and IC systems that exceed customer expectations.

Over the next five years, we will concentrate our marketing efforts on capturing a 20% share of the global GPC market. Tosoh holds an approximately 90% share of its domestic GPC market but has yet to establish a significant presence in GPC markets overseas. We plan likewise to develop IC markets in China and other Asian countries. Our aim in our column business is to attain top market

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Our immediate-term focus in our separation operations is on the biomedical field, to which we intend to expand sales of separation columns and Toyopearl.
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shares for our SW, ion-exchange, and hydrophobic interaction columns in bio-related fields. To do so, we will take advantage of our new SW products for antibody processing. Our recent expansion of our Toyopearl production capacity, meanwhile, should support our marketing goal of winning 10% of the global separation media market.

We are similarly preparing for further growth in our diagnostic operations. Over a five-year span, we will introduce new reagents for atrial natriuretic peptide (ANP) and other testing. We will also continue our efforts to market our B-type natriuretic peptide (BNP) diagnostic reagent in the United States and in countries in Europe and Asia. In addition, we will increase our range of panels for contagious diseases, a rapidly growing market.

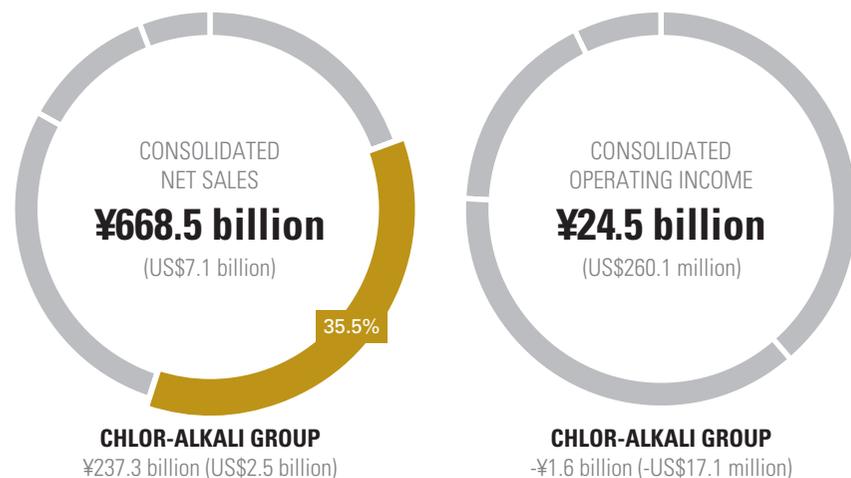
And we will continue to expand our diagnostic product lines for measuring and supporting the treatment of diabetes. This will heighten our contribution to diabetes patient care.

CHLOR-ALKALI GROUP

The Chlor-alkali Group operates the largest fully integrated manufacturing capacities of their kind for chemical commodities in Asia. It supplies global industry with the raw materials for a vast array of products that enrich people's lives. Because of the close proximity of its core operations to Asia's growing markets, the Chlor-alkali Group is well-positioned to take advantage of opportunities throughout Asia.

Manufacturers around the world count on Tosoh and its Chlor-alkali Group to support their operations with stable supplies of raw materials. We fulfill our responsibility to maintain stable supplies of commodities to world markets and to our own group operations globally with a focus on keeping costs down and on market movements.

The Chlor-alkali Group's operations thrive on the synergies afforded by Tosoh's vinyl isocyanate chain. Those operations exemplify the co-operation among companies inside and outside the Tosoh Group that bolsters the company's competitiveness and makes it a valued partner of industry. Tosoh Group companies and their suppliers work to make and to provide



Note: The operating loss is not shown above.

the Chlor-alkali Group's products to growing markets in Asia and beyond.

BASIC CHEMICALS

The basic chemicals that fuel the Chlor-alkali Group's commodity and specialty businesses arise from an integrated process that begins with the electrolysis of salt to obtain chlorine and caustic soda. This reaction is the basis for the manufacturing of five principal chlor-alkali products: caustic soda; vinyl chloride monomer (VCM); polyvinyl chloride (PVC) resins; calcium hypochlorite; and sodium bicarbonate.

Caustic soda, or sodium hydroxide, is used in producing sodium compounds, such as sodium bicarbonate, or baking soda. It also finds application in the manufacture of rayon, pulp and paper, alumina, soaps and detergents, textiles, and vegetable oils. Tosoh employs its jointly owned bipolar ion-exchange membrane technology (BiTAC) in combination with the economies of scale afforded by its operational infrastructure and expansive operations to supply the vital basic chemical caustic soda competitively to the Asian market.

VCM is a colorless gas and a building block for PVC, which is used in pipes and other building materials. Tosoh accounts for more than 35% of Japan's VCM production and is the domestic leader in PVC resins, accounting for one-fourth of the national output.

With Tosoh considering expansions to its PVC production facilities in China and the Philippines, the potential need for VCM by the Tosoh Group rises substantially. The company, therefore, has taken steps to clear a bottleneck in its VCM production at the Nanyo Complex caused by the oxychlorination process used to increase the yield of VCM from ethylene dichloride (EDC). The implementation of an improved oxychlorination process is scheduled to be completed in October 2013.

In fiscal 2013, moreover, Tosoh decided to expand capacity at its Nanyo Complex No. 3 Vinyl Chloride Plant instead of rebuilding the No. 2 Vinyl Chloride Plant severely damaged in the fire and explosion of November 2011. Scheduled for completion in October 2014, the expansion will add 200,000 metric tons of VCM per year. Restored VCM capacity will also benefit the company's electrolysis operations, which have been operating at excess capacity. Based on its capacity expansions, Tosoh expects to return to full production in its VCM and electrolysis operations in 2015.

Tosoh, meanwhile, markets its Chlor-alkali Group's calcium hypochlorite overseas under the brand name Niclon. This product is used for sterilizing and disinfecting swimming pools and drinking water. It also is used in sewage treatment systems. The group's sodium bicarbonate likewise is widely used, in food products, animal feeds, bath additives, and pharmaceuticals.

TOSOH'S FULLY INTEGRATED VINYL ISOCYANATE CHAIN

The Vinyl Isocyanate Chain's Chemical Manufacturing Processes

The array of chemical processes that form the vinyl isocyanate chain yield a wide range of feedstocks. The vinyl chain begins with the electrolysis of salt to generate chlorine and caustic soda. Ethylene is then reacted with some of the chlorine to produce EDC. The remaining chlorine is used to manufacture additional chlorine derivatives. The EDC, meanwhile, is combined with caustic soda to produce ethyleneamines, a major Tosoh product, and is converted to VCM, which, in turn, is converted into PVC resins.

Tosoh has expanded its vinyl chain to include the isocyanate chain by supplying chlorine and other raw materials for the production of isocyanates. Downstream processes subsequently generate hydrogen chloride, a by-product of isocyanate production that is

then pumped back to Tosoh for processing into more EDC for conversion into VCM.

Group Performance and Markets

Net sales for the Chlor-alkali Group were ¥237.2 billion (US\$2.5 billion), a decrease of 2.7% from fiscal 2012. The group accounted for 35.5% of Tosoh's consolidated net sales in fiscal 2013, the same as a year earlier. The principal factors behind the deterioration in performance were the downturns in global markets and the continued strong yen, compounded by the disruption in domestic sales and in exports of various product lines because of the November 2011 accident at the Nanyo Complex. The Chlor-alkali Group recorded an operating loss of ¥1.6 billion (US\$17.1 million) in fiscal 2013, improving by ¥8.4 billion from fiscal 2012.

The Chlor-alkali Group continued in fiscal 2013 to be troubled by the negative trends of the past five years. These include excess

competition, a strong yen, the difficulties of passing on the rising cost of ethylene, and a shrinking export market to China. The group also had to deal with the lingering effects of the accident at the Nanyo Complex and with slowdowns in economies around the world for most of fiscal year 2013.

Tosoh is positioned as a major player in chlor-alkali internationally and is a dominant player in Asian markets.

Our domestic shipments of caustic soda declined in fiscal 2013 because of the limitations placed on our electrolysis operations by the lower production levels of VCM and falling demand in Japan. Overall caustic soda shipments, however, approximately matched those of the previous fiscal year because of growth in exports. Sales were also about the same because the group increased its domestic caustic soda prices and because caustic soda prices rose overseas.

Domestic and overseas shipments of VCM and PVC resin fell because of the accident at the Nanyo Complex's No. 2 Vinyl Chloride Monomer Plant. In addition, VCM and PVC prices softened overseas.

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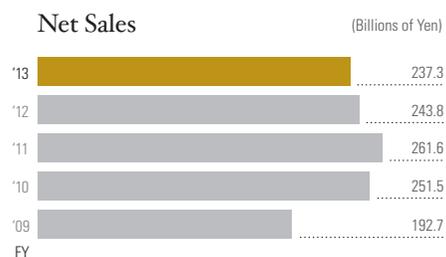
player in Asian markets. In addition to being able to offer a full line of chlor-alkali products, the company has built a strong reputation for stable supply because of its ability to maintain cost-effective operating rates by adjusting exports and domestic supplies.

The company, however, faces stiff competition in its principal chlor-alkali markets at home and abroad. Domestically, Tosoh competes with 25 other companies with electrolysis facilities. Overseas, China accounts for approximately 40% of global salt electrolysis and PVC production capacity and is rapidly emerging as the main player in chlor-alkali. China's use in particular of the carbide method for PVC production has led to a deterioration of PVC prices. High electric power rates and raw material prices in China, though, have eroded the advantages of the carbide production method.

The long-term forecast for such of Tosoh's main products as caustic soda and PVC is for inevitable growth in demand throughout Asia. This is especially true for India and China.

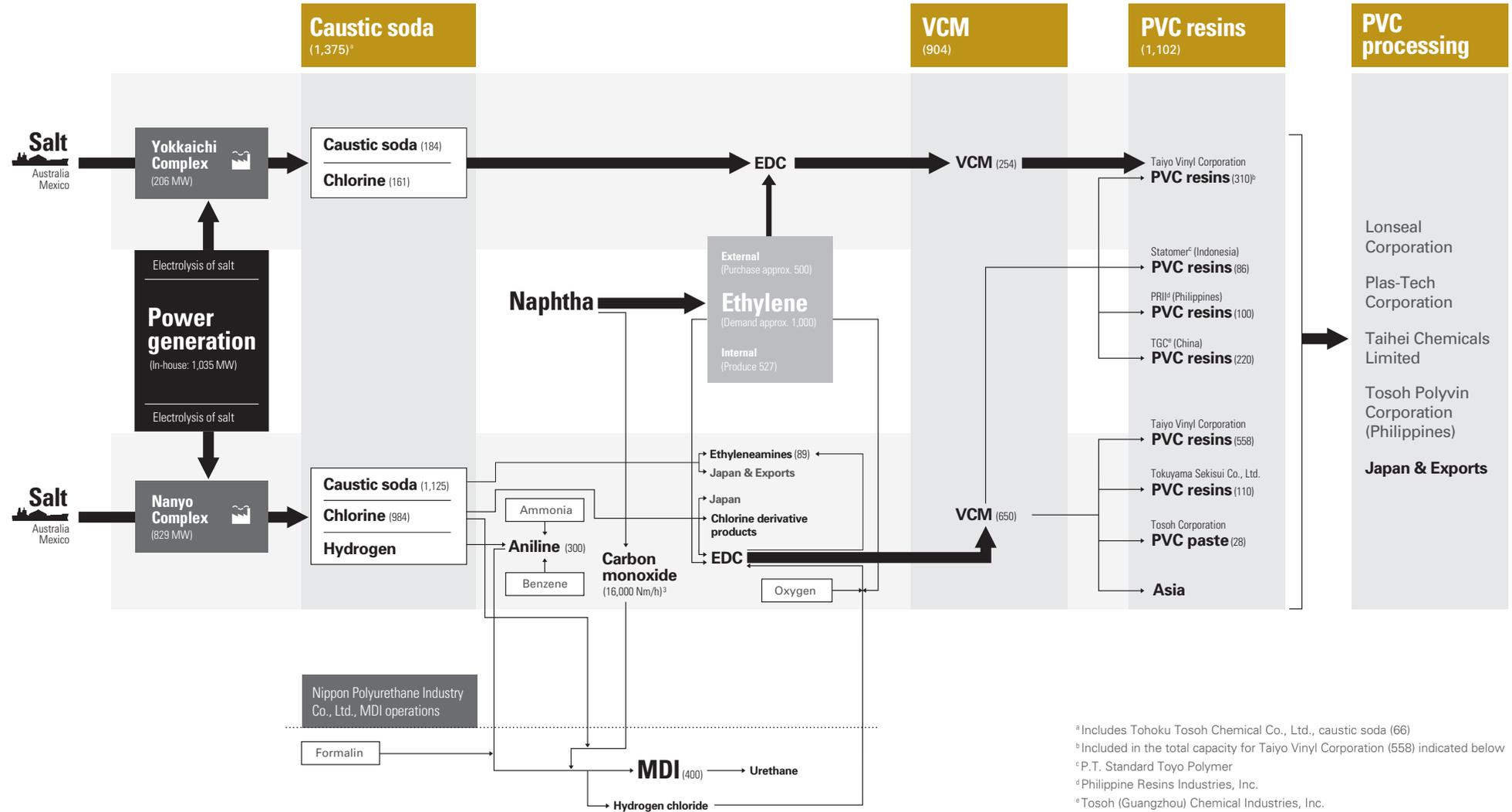
Developments

At the end of 2013, Tosoh chose to expand the VCM production capacity of its No. 3 Vinyl Chloride Monomer Plant at the Nanyo Complex by 200,000 metric tons. The expansion will bring Tosoh's annual VCM production capacity to 1,100,000 metric tons. It will result in increased production and sales



TOSOH FULLY INTEGRATED VINYL ISOCYANATE CHAIN

As of July 2013
Units: 1,000 metric tons



of VCM and caustic soda and contribute to the greater profitability of the Tosoh Group's core operations, the vinyl isocyanate chain.

Tosoh explored various options for rebuilding its VCM capacity after the explosion and fire at the No. 2 Vinyl Chloride Monomer Plant eliminated that facility's annual VCM production capacity of 500,000 metric tons. The No. 3 Vinyl Chloride Monomer Plant was started up again in July 2012 following the accident. And the boost in its capacity will enable Tosoh to restore stability to its VCM supplies to Tosoh Group domestic and overseas PVC manufacturing and sales subsidiaries.

Likewise, the company will use the increased production to sell VCM directly to Asian markets. Another goal of this capacity expansion is to raise the operating rate of

Tosoh's electrolysis operations, which have had excess capacity since the accident, and to sell more caustic soda. The capacity expansion should come onstream in October 2014.

Strategies and Outlook

Tosoh's strategy for its chlor-alkali operations seeks a complete recovery from the 2011 accident at the Nanyo Complex to achieve profitability. To that end, the strategy involves reviewing the efficacy of business-strengthening plans, supporting Nippon Polyurethane Industry Co., Ltd. (NPU)'s efforts to become profitable, establishing more independent and collaborative PVC operations among Tosoh's PVC subsidiaries, and stabilizing operations at Tohoku Tosoh Chemical Co., Ltd., in the aftermath of 2010's major earthquake and tsunami.

With VCM production on track for a recovery, Tosoh is more than ever focused on the overall profitability of its basic chemicals operations. We are scrutinizing ways to bring product prices in line with rising naphtha and other fixed costs and to shift our priorities to the most profitable domestic and overseas markets. Those markets have strengths and weaknesses that increase or decrease as exchange rates, market conditions, and technologies change.

With VCM production on track for a recovery, Tosoh is more than ever focused on the overall profitability of its basic chemicals operations.

Teamwork thus is necessary on our part, especially for such products as PVC that are produced by a group of subsidiaries. These subsidiaries must cooperate in expanding markets while keeping their own houses in order to ensure profitability. Our goal for our VCM and PVC operations is to provide stable VCM supplies to our PVC manufacturing subsidiaries while maximizing profits. That involves strengthening domestic sales and seeking sales opportunities abroad in such markets as Indonesia and India. China, as indicated earlier, has become a difficult market characterized by the growing use of the carbide method to produce PVC.

As our electrolysis operations regain balance, we plan to increase sales of caustic soda domestically and overseas by upping shipments and pushing for price corrections. Ample

CHLOR-ALKALI CHEMICALS

Products <i>Brand Names</i>	Capacity (MTY*)	Markets Served	Applications
Caustic soda	1,375,000	Asia, Japan	Aluminum, paper, numerous other products
Vinyl chloride monomer	904,000	Asia, Japan	Polyvinyl chloride
Polyvinyl chloride resins	1,102,000	Japan	Numerous plastic products
Calcium hypochlorite <i>Niclon®</i>	10,080	Europe, Asia, Japan	Water treatment
Sodium bicarbonate		Asia, Japan	Food processing, animal feeds, bath additives, pharmaceuticals

*Metric tons per year

opportunities remain for caustic soda sales in Australia, Southeast Asia, and North America over the medium term. We are also exploring methods of expanding our sales of hypochlorate, sodium bicarbonate, and sodium sulfate.

Longer-term concerns include controlling the rising per kilowatt cost of our independent electric power generation facilities amid soaring commodities costs globally. The environmental taxes on fossil fuels being implemented in Japan in step-up stages over the next few years present a challenge to competitive electric power costs at Tosoh.

Among the strategies Tosoh is considering to raise its competitiveness is the expansion of its operations overseas. This strategy offers the advantages of reducing transportation costs and minimizing foreign exchange risk, so Japanese manufacturers are moving overseas. Our target markets will be downstream derivative products, such as PVC, methylene diphenyl diisocyanate (MDI), ethylene, and chloroprene rubber.

METHYLENE DIPHENYL DIISOCYANATE AND HEXAMETHYLENE DIISOCYANATE

MDI occupies a unique position among Tosoh's product lines and is of significance for the company's commodity and specialty operations. This isocyanate is a raw material for polyurethane and a fine chemical with an array of uses in organic synthesis. It also has marketing synergies with Tosoh's diverse

product lines, including organic synthesis compounds, polyurethane catalysts, and specialty polymers. MDI is used to produce a variety of products: thermal insulation for buildings and equipment; cushioning and paneling for automobiles; and packaging, sealants, and sporting goods.

Tosoh recognized the growing importance of MDI and its links to the company's vinyl chain in the mid-2000s. Between 2004 and 2005, therefore, the company added production facilities for aniline and carbon monoxide, two raw materials for MDI. Tosoh also increased its equity stake in MDI and polyurethane maker NPU, to 51% in 2006 and to 80% in 2008, before converting NPU to a wholly owned subsidiary in July 2012. These measures converted Tosoh's vinyl chain to a vinyl isocyanate chain.

By the end of 2007, NPU had substantially increased its annual production capacity for its core product, MDI. Demand, however, fell shortly thereafter because of rising global MDI production and a downturn in the global economy, and this compelled NPU to begin developing a lineup of higher-priced and more profitable products. NPU, for example, bolstered its rigid polyurethane foam product lineup and developed new applications for another of its isocyanate chain products, hexamethylene diisocyanate (HDI). The subsidiary has developed a range of high-performance HDI-based paints

and an HDI-based insoluble resin used as a surface coating for leather.

Our chlor-alkali and MDI operations are among the most integrated of the vinyl isocyanate chain. When demand for MDI and polyurethanes increases, NPU buys more raw materials from the vinyl chain operations. Projections show that demand for MDI is growing 8% annually in Asia, so this multiplier will become an ever more important driver of growth for Tosoh.

MDI occupies a unique position among Tosoh's product lines and is of significance for the company's commodity and specialty operations.

Performance and Markets

At the start of fiscal 2013, NPU's overseas markets for MDI were in a slump. Raw materials prices were rising, and the yen was strong. By year-end, however, export conditions had improved, with overseas markets recovering and the yen progressively weakening against other currencies. Profitability worsened, though, within NPU's domestic market amid heightened competition from imports and from domestic competitors.

NPU supplies MDI to polyurethane manufacturers in Japan and other Asian nations. In recent years, Tosoh and NPU have worked to increase NPU's MDI production capacity to 400,000 metric tons a year in anticipation of growth in demand, particularly in Asia. Oversupply and weak demand in a tough economic climate have altered the pace of demand growth, but Tosoh expects that MDI operations should reach full production in the medium term.

Our competitors, of course, also have MDI production capacity increases in the works. But no major additions in capacity are expected until fiscal 2015.

Strategies and Outlook

NPU's goal is profitability. But with no prospects of a full recovery in demand for MDI in the short term, NPU is seeking profitability by other means. It is developing value-added products and rationalizing its logistics. It is converting to a low-cost MDI production process that should be mostly in place by the end of fiscal 2014. It also is achieving growth in its domestic market share for the highly profitable functional urethane HDI.

NPU will also continue to solidify its dominance in the domestic polymeric market, where it holds a greater than 50% share. It will in addition continue to work on improving quality with monomeric that will support a higher price structure.

CEMENT

Tosoh makes three types of cement: ordinary portland cement, portland fly ash cement, and portland blast-furnace slag cement. Our cement plant is located at the Nanyo Complex, and all of the cement produced there is sold to Taiheiyo Cement Corporation, Japan's largest cement manufacturer.

Tosoh shifted to a one-kiln cement production system in fiscal year 2012 to reduce costs and improve efficiency.

Tosoh adds coal ash, a by-product of electrical power generation, and slag, emitted by blast furnaces, to its cement mixture. This enhances certain of its cement's properties, such as density and water resistance. Cement production, therefore, helps the company process waste and by-products from its other operations, giving cement production an important role in Tosoh's overall value chain.

Performance and Markets

Public- and private-sector demand for cement increased in fiscal 2013. A rise in the Chlor-alkali Group's domestic shipments of cement was attributed especially to high private-sector demand. The recovery efforts following the Great East Japan Earthquake underpinned much of that domestic demand.

Cement exports, though, continued to languish. Rising production and freight costs and increasing competition from cement makers in other countries put Tosoh at a disadvantage in export markets. And although overseas demand for cement remains firm, profit margins are low.

Tosoh's Cement Division nonetheless posted sales growth in fiscal 2013. And an increase in prices, a decline in coal costs, and other factors combined to push up the division's fiscal 2013 profitability.

Developments

Tosoh shifted to a one-kiln cement production system in fiscal year 2012 to reduce costs and improve efficiency. As a result, cement operations have operated at full capacity and full

sales since then and expect to continue to do so for the immediate future. This production structure has contributed significantly to the Cement Division's greater profitability. Over the medium term, the division is focusing on achieving further profit gains through additional reductions in its fixed costs.

In fiscal 2014, we anticipate ongoing strong domestic demand for cement from rebuilding projects in the Tohoku region in the aftermath of the earthquake and tsunami there.

Strategies and Outlook

Our one-kiln cement production system is expected to yield additional savings in fixed costs through reduced maintenance expenses and lower labor and outsourcing costs. Our improved waste plastic processing capacity and operations should also contribute to operational profitability. We will increase our waste plastic processing toward

the full capacity of our upgraded facilities over the medium term. In addition, we are continuing our efforts to conserve energy and to reduce our energy costs.

Performance, of course, is an important management target. But maintaining the important role our cement operations play in our recycling and environmental activities remains a top priority. The close relationship that we maintain with Taiheiyo Cement is crucial in that respect.

In fiscal 2014, we anticipate ongoing strong domestic demand for cement from rebuilding projects in the Tohoku region in the aftermath of the earthquake and tsunami there. Exports are also expected to expand after we increase our production to provide export quota portions that have not been available in recent years because of domestic demand.

CEMENT

Products	Capacity (MTY*)	Markets Served	Applications
Cement	2,900,000	Asia, Japan	Portland cement, portland blast furnace slag cement, portland fly ash cement

*Metric tons per year

PETROCHEMICAL GROUP

The challenge faced by Tosoh's Petrochemical Group is the pursuit of growth amid constantly increasing global petrochemical production capacity. The group targets growth by remaining competitive based on reducing its production costs and on moving its products upstream.

Product line diversification is another way the Petrochemical Group strives for growth. Its high-performance laminates for photovoltaic cells and its popular specialty items balance Tosoh's more traditional product lines for medicines, clothing, mobile device components, automobile parts, building materials, food packaging, paints, and more.

The Petrochemical Group is at the heart of Tosoh's operations. It supplies roughly half of the ethylene Tosoh requires for its vinyl isocyanate chain and polyethylene operations. And the group aims to provide the approximately 500,000 metric tons of ethylene that it manufactures in-house annually at a cost that keeps other petrochemicals compet-

itive in the market. It achieves that goal in part through flexible feedstock strategies.

A secondary challenge for the group is to manage its product mix to take advantage of or to compensate for continually changing market demand.

PROVIDING INDUSTRY WITH AN EXTENSIVE PORTFOLIO OF BUILDING BLOCKS

Tosoh began diversifying into petrochemicals in the late 1950s. The product line was a good fit with the company's other operations and with its mission to support the manufacturing industry and thereby fuel Japan's economic progress. We did not, however, enter the petrochemical market full scale until 1964 and the height of Japan's era of high economic growth.

It was in 1964 when one of our joint ventures began producing EDC, the main precursor for VCM. The wisdom of adding these building blocks of modern industry is obvious today. The Petrochemical Group accounts for around one-fourth of Tosoh's net sales and one-half of its operating profit.

Group Performance and Markets

The Petrochemical Group posted net sales of ¥187.6 billion (US\$2.0 billion) in fiscal 2013, a 2.9% decline from a year earlier. The group's contribution to Tosoh's consolidated net sales remained the same as in fiscal 2012, at 28.1%.

Operating income for the group decreased ¥2.0 billion, or 15.6%, to ¥10.5 billion (US\$112.1 million). This represented 43.1% of Tosoh's consolidated net operating income.

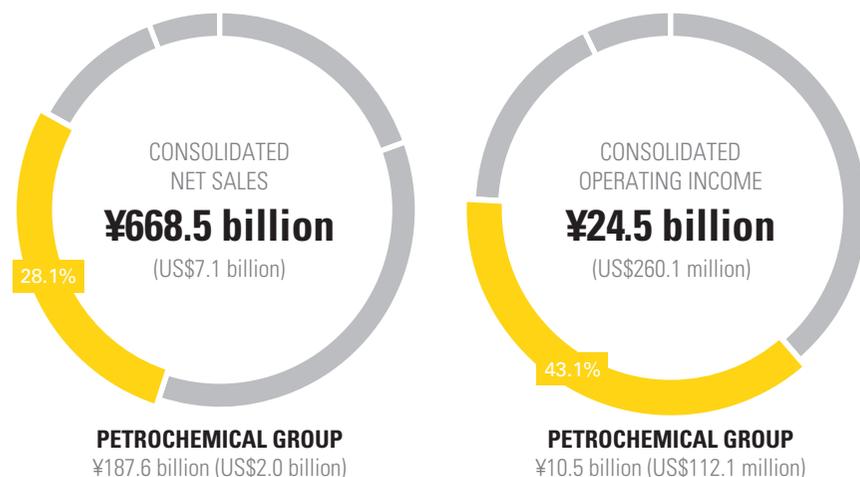
Shipments of ethylene, propylene, cumene, and other olefins contracted along with a falloff in demand. In addition, there were production declines at the start of the fiscal year because of scheduled plant maintenance.

Declining demand was also at fault for the low levels of polyethylene resin and chloroprene rubber shipments. Among other factors, the decrease in polyethylene resin shipments can be attributed to reduced shipments of ethylene vinyl acetate (EVA) copolymer caused by dropping demand for sealant film for solar cells and an increase in competitive imports. Faltering demand from Europe and Asia was responsible for declining shipments of chloroprene rubber.

OLEFINS

Tosoh and its customers use olefins to manufacture a broad array of products, from automotive additives to flavors and fragrances. The company has utilized its olefins feedstock to become an integrated manufacturer of hydrocarbon-based products and their derivatives. Major products in this category include ethylene, propylene, and cumene.

Ethylene is the precursor of polyethylene, from which springs the array of polymer



products manufactured by Tosoh. Propylene, in turn, is the precursor of polypropylene, a polymer that Tosoh applies broadly in such industries as packaging, textiles, and medical equipment. And cumene is generally converted to phenol, a key ingredient for the manufacture of phenolic resins, polycarbonate resins, and epoxy resins.

Olefin operations at Tosoh also include aromatic compounds. Benzene, for example, is a raw material for the cumene and aniline used in the Chlor-alkali Group's MDI operations. MDI is used as a raw material in the manufacture of polyurethane.

Since petrochemical manufacturing is primarily dependent on naphtha, the upswing in oil prices poses a threat to operational stability. The Petrochemical Group's response has been to implement a feedstock diversification strategy. That strategy includes reducing production costs by employing heavier naphtha grades, improving the recovery efficiency for

spent C4 and C5 fractions, and shifting to butane and propane to enhance the flexibility of feedstock selection.

Performance and Markets

Shipments of olefins fell because of the deterioration in the domestic demand-supply balance caused by stagnant demand from China and by declining exports and increasing imports because of the strong yen through most of fiscal 2013. The demand-supply balance in Asia worsened because of new production capacity that came onstream in Asia and the Middle East and because of the weak Chinese market.

In fiscal 2013, the issue of excess ethylene supply capacity in Japan continued to rear its head amid greater petrochemical production in the Middle East and in Asia. Ethylene production in Japan slid to 6.1 million metric tons in fiscal 2013, from 6.7 million metric tons a year earlier. Demand, on the other

hand, fell below 5.0 million metric tons, the same level as in the early 1990s. Conversely, the demand-supply gap for butadiene and benzene tightened, pushing up prices. The economic slowdown in the global and Asian economies, coupled with the influx of imports from the Middle East, hit Asian markets hard. Ethylene production in China declined 2.7%, to 14.9 million metric tons.

Over the longer term, we expect olefins to remain a growth market because developing economies invariably consume increasingly large amounts of plastics.

that there will be no significant improvement in demand for Tosoh products soon.

Over the longer term, we expect olefins to remain a growth market because developing economies invariably consume increasingly large amounts of plastics. This trend is occurring in China and other Asian countries and is showing signs of emerging in India.

Raw material prices continue to edge upward, though at a slower pace. The import price of naphtha appreciated further in fiscal 2013 because of the weakening yen and ended the year at ¥57,450 per kiloliter, up from ¥54,100 at the end of fiscal 2012. Consequently, diversifying the feedstocks used in Tosoh's cracking operations remains an important cost strategy.

Strategies and Outlook

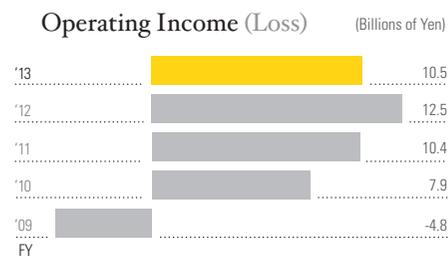
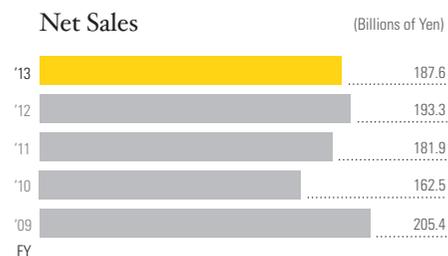
Expectations are high that demand for olefins will grow in fiscal 2014. The change of government in Japan and the implementation of various strategies to resurrect the Japanese economy have changed domestic market sentiment. The yen, moreover, has weakened considerably, and the stock market has risen. Companies are investing capital.

Elsewhere in Asia, competing forces are at work. Economies are getting back on a growth track, particularly in China, but the greater influx of olefins from the Middle East and new capacity additions in Asia suggest

Tosoh is increasing its use of liquefied petroleum gas (LPG) and other non-naphtha alternatives and is employing less-costly grades of naphtha. The emergence of shale gas as an alternative feedstock represents a new force of change in the industry. We are assessing its significance and deciding on strategies.

Tosoh consistently makes full use of its refining and petrochemical modeling system (RPMS) to deal with alterations to its business environment. We are also adjusting the mix of cracker output to maximize profitability.

In fiscal 2014, there are concerns that demand for ethylene will continue to dwindle. We



anticipate, conversely, that demand will strengthen for such C4 fraction products as butadiene and for aromatics, such as benzene. We remain prepared for growth by taking advantage of the opportunities that arise from managing the balance among production rates, product mix, and market prices.

POLYMERS

Plastics are part of the fabric of modern living, and Tosoh is the source of polymers used by a wide spectrum of industries to manufacture a multitude of plastic products. Polymers have application in everything from food packaging to agriculture, engineering, and distribution.

Our polyethylene lineup includes ethylene vinyl acetate (EVA); low-density polyethylene (LDPE); linear low-density polyethylene (LLDPE); high-density polyethylene (HDPE); and functional polymers, including chloroprene rubber, adhesive polymers, and engineering plastic resins. We adapt product specifications to meet the needs of our customers for applications in consumer and industrial products. As a result, different grades of EVA are used in everything from solar cells to shoe soles. LDPE goes into heavy-duty bags and agricultural film. And HDPE is found in injection moldings and fishing net filament.

A standout in Tosoh's polymer lineup is chlorosulphonated polyethylene (CSM). Highly durable, CSM is used extensively in automotive hoses, industrial rollers, electric power lines, high-performance adhesives, escalator handrails, leisure boats, and many other products. CSM is in short supply worldwide, and Tosoh, as the global leader in CSM production, has ramped up its production capacity and debottlenecked its manufacturing process to fill that gap. Through two phases of construction, in fiscal 2011 and fiscal 2012, the company more than doubled its annual CSM production capacity, to 9,500 metric tons.

Among other notable polymer products, engineering plastic polyphenylene sulfide (PPS) is also in great demand. It is especially valued by automotive manufacturers, which utilize PPS to make their vehicles lighter and more fuel efficient.

POLYETHYLENES

Performance and Markets

Most categories of polyethylenes posted year-on-year declines in sales and sales volumes in fiscal 2013. This reflected the end to a cycle of price increases and a decrease in demand.

OLEFINS

Products	Capacity (MTY*)	Markets Served	Applications
Ethylene	493,000	Asia, Japan	Petrochemicals
Propylene	288,000	Asia, Japan	Polypropylene, cumene, OXO process alcohol
C4 fraction		Japan	C4 hydrocarbons, including butylenes and butane; tertiary butyl alcohol; polychloroprene rubber
Tertiary butyl alcohol	70,000	Japan	Methyl methacrylate
Cumene (isopropylbenzene)	300,000	Asia, Japan	Phenol
Aromatic compounds	Benzene: 154,000 Toluene: 65,000 Xylene: 32,000	Japan	Numerous products

*Metric tons per year

POLYMERS

Products <i>Brand Names</i>	Markets Served	Applications
Ethylene vinyl acetate copolymer <i>Nipoflex®</i>	Europe, Asia, Japan, NA	Shoe soles, blown film, stretch film and laminates, extruded sheet, hot-melt adhesives, injection moldings
Low-density polyethylene <i>Nipolon®, Nipolon-L®, Nipolon-Z®, LUMITAC®</i>	Europe, Asia, Japan, NA	Heavy-duty bags and agricultural film, extrusion coating and laminates, injection moldings
High-density polyethylene <i>Nipolon® Hard</i>	Europe, Asia, Japan, NA	Chemical containers used in semiconductor manufacturing; blow moldings; blown film for containers, bags, and packages; extruded pipe; injection moldings; fishing net filament
Adhesive polymers <i>Melthene®-M, Melthene®-H, Melthene®-G</i>	Europe, Asia, Japan, NA	Adhesives for diverse materials
Chloroprene rubber <i>SKYPRENE®</i>	Europe, Asia, Japan, NA	Sheathing for wire and cable jackets, industrial and automotive components, construction materials, extruded products, adhesives, wet suits
Chlorosulphonated polyethylene <i>TOSO-CMS®</i>	Europe, Asia, Japan, NA	Automotive and industrial hoses, coatings and linings for electrical and mechanical products, raincoats
High-performance chlorosulphonated polyethylene <i>extos®</i>	Europe, Japan, NA	Automotive belts
Polyvinyl chloride paste	Asia, Japan	Wallpaper, flooring, artificial leather, toys, gloves
Polyphenylene sulfide resins	Europe, Asia, Japan	Electric and electronic equipment, home appliances, automotive components
C9 hydrocarbon resins	Asia, Japan	Paints, printing inks, adhesive tape, hot-melt adhesives, rubber

EVA and LDPE sales suffered a double punch from a sudden drop in demand and intensified competition. Melthene, however, remained profitable, edging up in sales and sales volume. LLDPE also posted sales growth, regaining its profitability after facing pricing pressure in fiscal 2012 from new plants in the Middle East. HDPE sales faced the same challenge but did not have the firm demand required to remain profitable.

Strategies and Outlook

Tosoh is shifting its strategy in the polyethylene (PE) markets to an emphasis on its high-value-added products. The company is therefore weighting the composition of its PE sales heavily toward blown and extrusion products in the HDPE market and toward laminates, particularly in the food product and medical treatment fields, in the LDPE market. Few of the company's PE sales come from the commercial film market, which is dominated by imports.

In the HDPE market, we have developed high melt strength (HMS) PE laminates that serve as substitutes for low-density polyethylene. The product line has been making steady inroads in the food-wrapping market. We also have developed a high forming HMS-PE grade to support the automotive industry's drive to build lighter cars.

In addition, Tosoh has introduced new grades of HDPE for blown plastic. Demand is rising for Tosoh's HDPE for use in medicine bottles and industrial chemicals based on the pharmaceuticals and health care industries' strong regard for the high-permeation barrier of the company's HDPE. Another area of growing demand for HDPE is one-way medicine dispensers, such as eye drop ampoules. Companies are looking to replace conventional polymers with HDPE because of its strong rupture resistance. We also will strive to expand our sales of the high-purity pharmaceutical containers and water supply pipes that are our areas of strength in our line of Ziegler catalyst-based products.

In addition, we will continue to develop more niche markets for Melthene, another of our PE product lines. We will leverage Melthene's versatility and our established position in the market. Beyond furnishing "easy-peel" Melthene lines for industrial and food products, we aim to enter the technically challenging dimming glass market for automobiles.

The market for LLDPE, meanwhile, is similar to that for LDPE. So we will focus on the laminate and medical treatment markets to boost LLDPE sales by developing high-value-added products.

Low demand for solar cells and excess inventory in the solar cell industry have reduced demand for EVA. Full-scale recovery is not expected until the latter half of fiscal 2014. As recovery takes hold, however, Tosoh will remain well

positioned as Japan's top manufacturer of EVA grades for the high-growth solar cell market and its No. 2 EVA manufacturer overall.

FUNCTIONAL POLYMERS

Performance and Markets

Sales of high-performance polymers in fiscal 2013 were down in most categories, but overall profits remained solid during the year. CSM was no exception to the general trend, but we managed to minimize declines in CSM sales and profits while maintaining a high profit margin. Tosoh is the dominant global manufacturer of CSM. We hold a 66% share of the CSM market worldwide.

PPS resin sales rose in fiscal 2013, but profits declined amid growing excess supply on the market. The opposite was true for chloroprene rubber, for which sales fell but profits increased as higher-grade product strategies began to kick in.

Developments

Tosoh's optical polymer (TYR) operations are finally getting on track. Higher demand and expanded production levels helped sales to increase in fiscal year 2013.

Optical polymer TYR is used to produce small and medium displays. With the soaring popularity of these devices, optical polymer operations are poised to become a significant contributor to the sales of the Petrochemical

Group. Those operations are working with customers to provide increasingly advanced products.

Strategies and Outlook

By exploiting the competitive advantage inherent in our vinyl isocyanate chain, we are marketing special grades of PVC paste for wallpaper and flooring. This fits with our intent to increase profits by improving our products and expanding our product lines.

In the chloroprene rubber market, the weakened yen should help us deal better with the high prices for the raw material butadiene. Our olefin operations will also be increasing their production of butadiene from the C₄ fraction. We will continue, therefore, to focus on increasing our sales of grades of chloroprene rubber products that are resistant to economic fluctuations and to intense price competition. These include those of our chloroprene rubber grades that do not contaminate metal molds. They also include our sulfur-modified chloroprene rubber grades.

Tosoh is the world's sole supplier of CSM to the high-end market. With the yen exchange rate falling to more reasonable levels, we plan to take advantage of our superior positioning in the global CSM market.

Differentiating our PPS resin products is essential to combating the oversupply of PPS on the world market. So we are pursuing

a strategy aimed at applications that require special grades of PPS resins. Our specialty grades include a PPS resin with superior metal bonding for automotive applications.

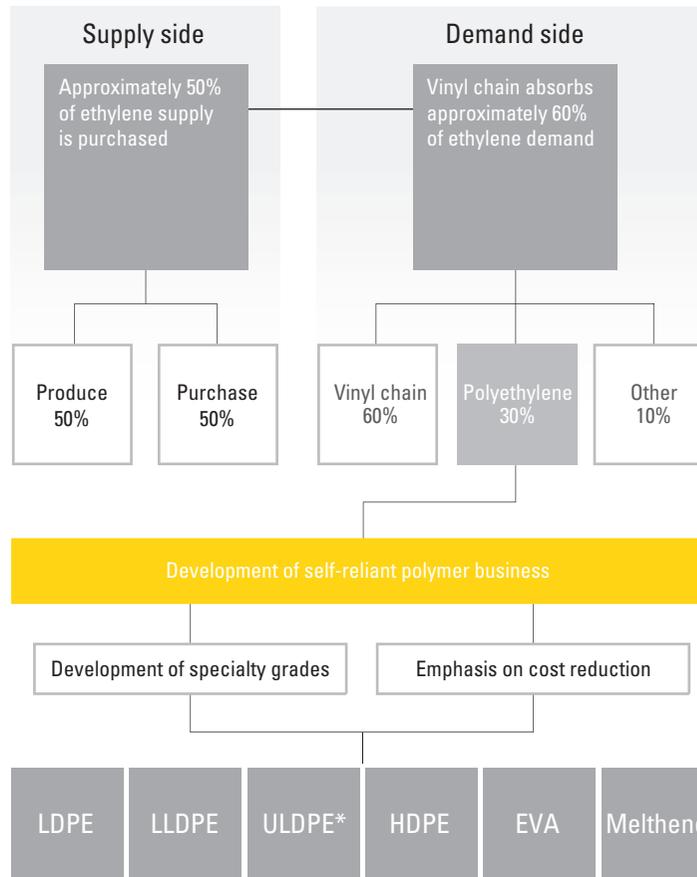
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We also are looking forward to scaling up operations of our new TYR product line. That will enable us to ride the wave of handheld devices flooding markets globally.

ETHYLENE

Ethylene is a basic raw material used in Tosoh's vinyl chain in the processes for producing VCM and PVC and for its polymers business. Because Tosoh produces half of the ethylene it needs in its manufacturing activities, the company is buffered from rising ethylene prices. Tosoh must, however, keep its production costs under control to ensure the competitiveness of its upstream products.

ETHYLENE OPERATIONS



*Ultralow density polyethylene

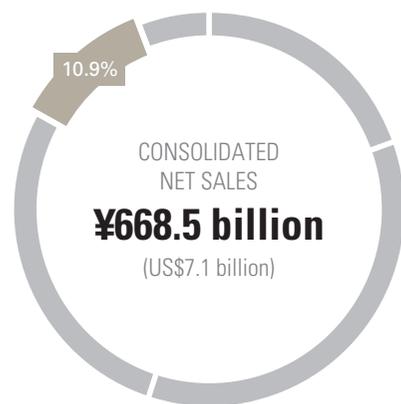
ENGINEERING GROUP

Tosoh established its Engineering Group in fiscal 2011. The group comprises such various companies as Organo Corporation and its water treatment and pure water generation operations, Toboku Denki Tekko Co., Ltd., and its construction operations, and Eco-Techno Corporation and its soil remediation operations.

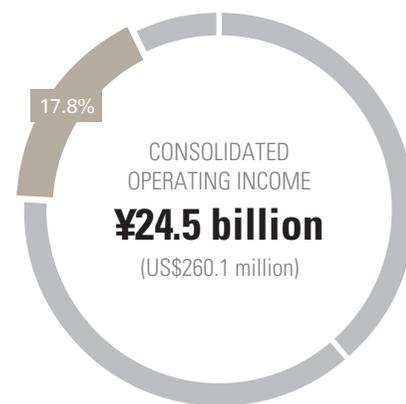
Group Performance and Markets

Fiscal 2013 net sales for the Engineering Group were ¥72.7 billion (US\$773.4 million), a decrease of ¥1.8 billion, or 2.4%, from the group's net sales for fiscal 2012. The group's operating income fell ¥1.4 billion, or 24.1%, to ¥4.4 billion (US\$46.4 million).

The decline in net sales notwithstanding, the Engineering Group contributed to Tosoh's consolidated performance in fiscal 2013. It accounted for 10.9% of the company's consolidated net sales, compared with 10.8% in fiscal 2012. Its contribution, however, to Tosoh's consolidated net operating income declined from 24.2% to 17.8%.



ENGINEERING GROUP
¥72.7 billion (US\$773.4 million)



ENGINEERING GROUP
¥4.4 billion (US\$46.4 million)

The group's businesses in water treatment facilities, services, and related chemicals were the main contributors to its sales performance. Organo accounted for over 85% of the net sales of the Engineering Group. The group's construction-related companies posted sales declines.

WATER TREATMENT

Tosoh subsidiary Organo Corporation is a specialist in water treatment and pure water generation technologies and systems. In addition, its water treatment systems for industry and for municipal waterworks and sewage treatment plants and its soil remediation technologies are top ranked around the world.

Organo's businesses, however, face uncertainty in Japan's maturing market.

Capital investment has been weak in the public sector in Japan for many years, and Organo's high-tech business is susceptible to electronics industry business cycles. Fortunately, a huge potential market for Organo's products and services exists elsewhere in Asia. The subsidiary is steadily gaining ground in the public and private sectors of many Asian countries that will experience rapid infrastructure growth over the next few decades.

The history of Organo is the history of water purification in Japan. The subsidiary began operations in 1946 by marketing Japan's first heat-free water distillation system. Over the

years, Organo has been an important contributor to progress in industry and to people's daily lives through its water treatment systems and products for municipal waterworks and sewage treatment plants and power stations and for the pharmaceutical, food processing, and IT and electronics industries. Tosoh Corporation acquired equity in Organo in 1955 and retains a 41.20% interest in the company.

Organo's operations are built around two business segments: water treatment engineering and functional products. The water treatment engineering business is further divided into the plant and solution businesses. The plant business markets water treatment systems, while the solution business maintains and manages delivered systems. The functional product business sells consumables, such as standard products, chemicals, and food processing materials.

Ultrapure water systems feature some of Organo's most advanced technologies. These systems are essential for the cleaning of semiconductor devices and LC panels, the production of pharmaceuticals, the safeguarding of power generation systems at thermal and nuclear power stations, and the analysis of trace substances. Organo's San Kan Oh multifunctional water system series for cleaning semiconductors and LC panels was awarded the Excellent Environmental Equipment Award by the Japanese Ministry of Economy, Trade and Industry in 2007.

In 2010, Organo began the full-scale commercialization of two series of ion-exchange resins that it has developed to ensure low-metal materials for use in the electronics industry. The miniaturization of semiconductors has boosted demand for the type of resins represented by the subsidiary's new Amberlyst Dry and OrLite DS series, which are used chiefly to remove metals from electronic materials.

The subsidiary's recent developments in wastewater treatment and resource recovery include Ecocrysta, a fluoride collection and recycling system for wastewater. Other Organo advances involve a high-speed nitrogen removal process for sludge that is three to five times faster than conventional systems. In addition, Organo has developed a high-speed dissolved air flotation system that can reduce the load of suspensoid almost four times compared with conventional systems.

Organo has also expanded its functional product lineup with the introduction of the

Puric-w and Purelab flex UV ultrapure water production systems for laboratories. And the subsidiary has augmented its Amberlite polymeric adsorbents and ion-exchange resins for the medical and pharmaceuticals industries. Retail consumers benefit from Organo's launch of a filterless air purifier, the Air Washer, that uses water to remove pollen, exhaust gas components, radioactive materials, and other unwanted elements.

Organo, meanwhile, was the first company in Japan to develop a system for removing organic chlorine compounds from groundwater. The subsidiary also is committed to advancing its soil remediation technology.

To sell and service the technologies and systems that it has furnished to its Japanese customers, Organo has established a strong network of maintenance and sales subsidiaries in Japan. It is building a similar network throughout the rest of Asia. In fiscal 2011, Organo established a sales subsidiary, Organo

(Vietnam) Co., Ltd., in Ho Chi Minh City, Vietnam. It has also established Organo (Suzhou) Water Treatment Co., Ltd., an R&D center, in Suzhou, China. In addition, Organo has four production bases: three in Japan and one in China.

Organo ... was able to take advantage of its positioning abroad to capture solid orders from the semiconductor industry in Taiwan.

Organo also is keeping an open mind to collaborative efforts with other companies. In February 2012, Organo signed a basic agreement on a business alliance with Meidensha Corporation to collaborate in a domestic municipal waterworks business. Organo and Meidensha will combine their water and engineering equipment capabilities and their business experience in the water processing market to supply services to the public sector. In Japan, the public sector is increasingly outsourcing water treatment operations or seeking to work with private-sector partners.

Performance and Markets

Similar to its parent company, Organo Corporation faced difficult business conditions in Japan and elsewhere in Asia during the fiscal

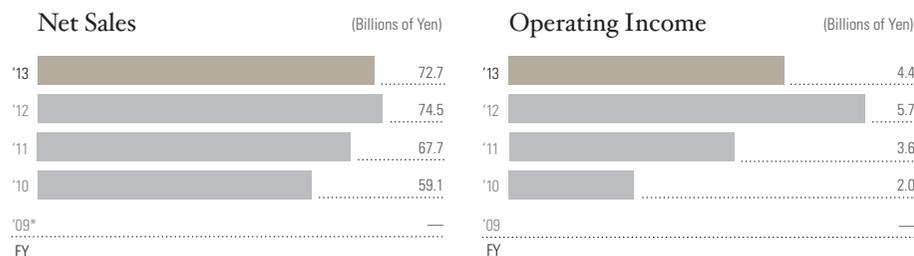
year under review. Water treatment sales in particular declined from the previous fiscal year. This was because of the tapering off of major orders for water treatment systems of domestic thermal power stations received in the wake of the March 2011 earthquake and tsunami in Japan and the shutdown of the country's nuclear power plants.

The solution business, which oversees the maintenance and management of installed water treatment systems, also suffered. It experienced lower operating levels at clients' facilities and the postponement of regularly scheduled maintenance. Business declined especially from the electronics industry.

Overseas, the strong yen and economic slowdowns continued to dampen capital expenditures and therefore sales in most of Organo's markets. Organo, though, was able to take advantage of its positioning abroad to capture solid orders from the semiconductor industry in Taiwan.

Developments

In February 2013, Organo announced that it had developed and begun selling high-speed anaerobic microorganism treatment equipment for organic wastewater that uses a fluid carrier. The subsidiary has commenced full-scale sales of the equipment domestically and abroad. The new system is more than 10 times faster than the traditional aerobic method and in excess of 3 times speedier



*The Engineering Group did not exist in fiscal 2009.

than the anaerobic granule method. It safely retains removed microorganisms and has the added advantage of producing biogas that could be recycled as an energy source for gas-driven electric power generators. This new system is especially effective in treating organic effluents from food, beverage, and chemical plants.

Strategies and Outlook

Facing maturing and highly competitive markets in Japan, Organo is concentrating on capturing growth opportunities and maintaining profits. Capital investment continues to decline in Japan, such that the subsidiary must react quickly to changes in industrial structure to stay ahead of the market. Growth opportunities domestically include midsize pure water production and wastewater treatment and solution businesses, such as operations and maintenance (O&M) contracts.

Organo, however, must be equally aware of the need to accelerate its shift to overseas markets, particularly for its water treatment engineering business for power stations. This process will take time because Organo must become highly cost-competitive and must position itself in markets abroad.

The potential rewards are high, though, with the global market for water treatment forecast to grow substantially. As a step forward, in November 2012 Organo started a joint water

treatment business with P.T. Lautan Luas in Indonesia when it acquired a 51% stake in that firm's water treatment subsidiary. It renamed its new subsidiary P.T. Lautan Organo Water in January 2013. P.T. Lautan Organo Water will target Japanese and local companies in the Indonesian market.

Overall, Organo must develop new technologies, markets, and businesses that capitalize on growth opportunities. It also must become more cost-competitive through greater efficiencies and cost reductions.

Organo has in place multiple strategies to meet its goals. The subsidiary is restructuring to shift from its concentration on the electronics industry, pure water, and its domestic market to general industries, wastewater treatment, and the global market. Organo is also concentrating on providing customers with greater value and satisfaction. It is encouraging its employees and its business groups to act with a market and customer orientation in mind. In addition, the subsidiary continues to make progress with its cost-reduction programs.

In fiscal 2014, demand for Organo's products and services from the electric power industry is anticipated to decline further while demand from the electronics industry is expected to remain at low levels. Organo's sales are nonetheless forecast to expand slightly on the strength of growth in functional products and overseas sales.

Over the long term, Organo will focus on expanding its thermal plant related business with the electric power industry. It will continue to build its business alliance with Meidensha Corporation to target domestic municipal waterworks projects in particular. The strategy for the functional products business is to continue to renew and expand the product lineup, aiming to ensure repeat business and to expand market share.

Overseas, Organo will aim at expanding its business elsewhere in Asia, especially in Taiwan and in countries throughout Southeast Asia. China remains a growth market, but higher business risk there makes it a lower priority. Overall, Organo is stepping up its efforts to position itself strongly in markets overseas. Its business localization activities, including its development of local supply chains, are helping to root it in local markets.

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Overall, Organo is stepping up its efforts to position itself strongly in markets overseas.
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ADDITIONAL OPERATIONS

Engineering Group member Eco-Techno provides soil purification and remediation. Its particular competency is in soil surveys and analyses. Bringing Organo and Eco-Techno

together in the Engineering Group raises their collaboration in and the technological level of their eco-businesses.

Another member of the Engineering Group, Tohoku Denki Tekko, is a Tosoh Group construction company. To ensure cost-efficiency, Tohoku Denki Tekko must compete with non-group companies to win orders from the Tosoh Group.

Performance and Markets

Tohoku Denki Tekko has long struggled amid a prolonged period of deteriorating sales and fierce competition. It continued, however, to focus on gaining orders from industrial and electrical machinery businesses. And in fiscal 2013, Tohoku Denki Tekko's efforts to improve profitability demonstrated strong progress.

Sales by Eco-Techno rose substantially in fiscal 2013 on the strength of the large volume of orders received in the previous fiscal year. Order volume for fiscal 2013 did not fare as well because of the lack of large orders, faltering business conditions, and growing competition. The overall soil purification and remediation market continued its decline. Boosted, however, by expanded sales and continued cost-reduction efforts that included workforce cuts, Eco-Techno moved into the black in fiscal 2013.

Strategies and Outlook

Tohoku Denki Tekko has made a significant recovery, but further efforts are required to put it on stable ground. It will continue to improve its efficiency and to increase its operating rates. With its enhanced cost structure, Tohoku Denki Tekko will be aiming to win more orders. Its targeted markets include earthquake rebuilding and other large-scale projects.

Eco-Techno is determined to continue to build on the profitability it achieved in fiscal 2013. To keep costs to a minimum as it pushes to expand orders in fiscal 2014, Eco-Techno will use outside resources and collaborate with Organo in sales and in technical matters. The March 2013 end to a period of grace on stricter requirements for certified staff members under Japan’s Soil Contamination Countermeasures Act presents Eco-Techno with an opportunity. Many competing companies are expected to exit the soil purification and remediation market, and the reduced competition and Eco-Techno’s contingent of certified staff will give it the advantage in the market.

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Eco-Techno is determined to continue to build on the profitability it achieved in fiscal 2013.

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WATER TREATMENT

Products	Markets Served	Applications
Water treatment systems	Asia, Japan	Effluent processing, pure water generation

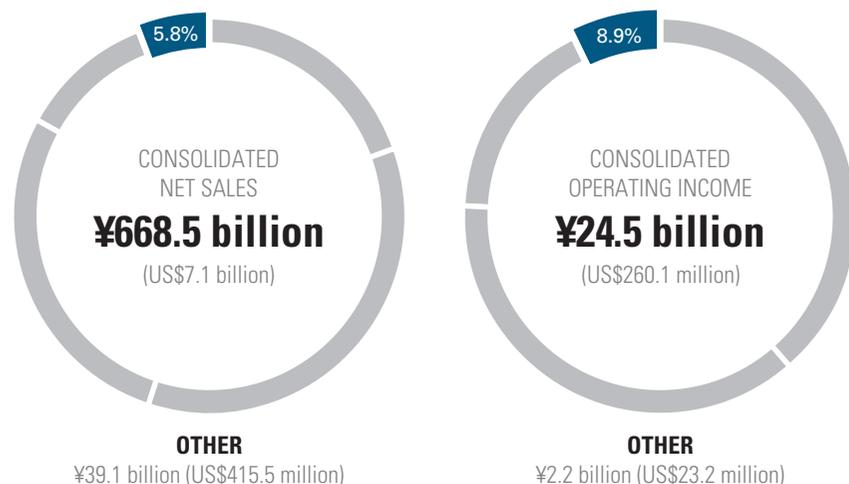
OTHER

Being positioned for growth includes being prepared to bridge the gap between business operations and customers. And that's the business of Tosoh's other businesses. It's an important role because the myriad support services provided by Tosoh's other businesses are essential to the company's ability to perform at peak—to ensure timely delivery and cost advantage.

It's essential, moreover, that those services be provided in a timely fashion. And not only to the company's diverse operations but also to its customers.

Tosoh's other businesses thus are constantly on call. They handle facility construction,

maintenance, expansion, upgrading and administrative services, personnel training, information technology (IT) support, and more. Tosoh, in fact, is encouraging the evolution of each of its other businesses from cost center to profit center.



STRATEGIC MOVE ENSURES COST-EFFECTIVENESS

Tosoh's other businesses came into being in April 2000, when Tosoh spun off its information processing, analytical, chemistry, and administrative operations into separate companies. This move was designed to improve Tosoh's consolidated performance and to enable its service-related companies to compete head to head with external suppliers by setting prices according to market rates.

The move, furthermore, keeps Tosoh competitive and customers satisfied. It is a cost-effective arrangement that applies to all of Tosoh's logistics, construction, engineering support, and related services. In Japan, other businesses also include cost-effective financial services.

Other Performance and Markets

Other net sales in fiscal 2013 fell ¥1.1 billion, or 2.8%, from net sales the year before, to ¥39.1 billion (US\$415.5 million). Operating income declined 9.3%, to ¥2.2 billion (US\$23.2 million). Other businesses contributed 5.8% of Tosoh's consolidated net sales, compared with 5.9% in the previous term, and 8.9% of Tosoh's consolidated operating income, down from 10.1% in fiscal 2012.

LOGISTICS

Maintaining transportation equipment, optimizing shipping schedules, and facilitating communications with bulk terminals and

internal customers are a crucial part of Tosoh's other business offerings. The efficiency of our logistics operations has helped us gain ISO 9001 certification for the quality control systems at our 13 sites in Japan—another important consideration in purchasing decisions.

Tosoh is working to build a similarly competitive logistics network in China. That will bolster the company's growing presence in China and elsewhere in Asia.

Performance and Markets

Tosoh's logistics operations serve the expansion and transport needs of the Tosoh Group. Business conditions for logistics were severe at the start of fiscal 2013, but they improved as exchange rates and markets steadily moved in the Tosoh Group's favor. As a result, logistics sales exceeded forecasts.

In fiscal 2013, logistics operations continued to support NPU's efforts to enhance its competitiveness, primarily by implementing more efficient logistics systems. They also began working with Tosoh Silica Corporation to improve its efficiency. The goal is to produce a concrete profitability improvement plan for that Tosoh subsidiary for fiscal 2014 and beyond.

In addition, logistics operations took measures during the year in review to improve the efficiency of land transportation services. Efforts included greater sharing of loads and expanded

joint transportation operations with other transportation companies.

Strategies and Outlook

Tosoh's logistics operations focus on four main tasks. They assist Tosoh companies and manufacturing groups with reducing manpower requirements and heightening efficiency. They introduce risk management processes and other procedures to improve safety and quality. They ensure that shipping terminals and warehouses have the capacities and facilities to meet the Tosoh Group's changing needs and that traffic is optimized along shipping routes. On a more strategic scale, they aid in the Tosoh Group's overseas expansion.

In fiscal 2014, our logistics operations will continue to aid NPU and Tosoh Silica with their drives to become more profitable. More efficient land transportation operations through greater load sharing and joint

transportation will also remain an important theme.

GENERAL SERVICES

Tosoh believes that its people are its strength and takes a hands-on approach to keeping its employees happy. It has established other businesses to handle personnel management, employee benefit administration, and human resources training. Those operations focus on developing social services that support employees.

Performance and Markets

In fiscal 2013, general services continued to strive for greater administrative efficiency by promoting participation in their Tosoh Group salary administration system. General services also worked to improve their service quality and reliability through training programs and better communications between branches.

Strategies and Outlook

General services will continue their mandate to handle and improve personnel management and employee benefit administration and training in fiscal 2014. They will reexamine methods of further reducing their workforce. They will also endeavor to raise the level of their services with poor reputations. In their training programs, they will focus on safety and career stage based education and training programs. They will, moreover, aim to prevent the spread of illness among employees by better managing employees with health concerns.

Tosoh believes that its people are its strength and takes a hands-on approach to keeping its employees happy.

ANALYSIS AND RESEARCH

Tosoh's chemical analysis operations provide Tosoh Group companies worldwide with a range of sophisticated services specializing in organic, inorganic, and polymer chemistry and in electronic materials. These services support Tosoh's product and application development efforts, ultimately benefiting customers.

Performance and Markets

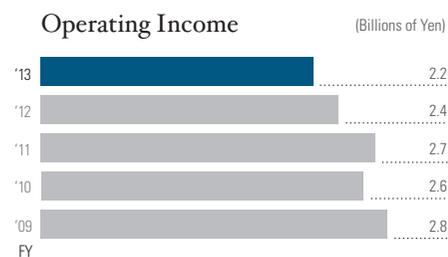
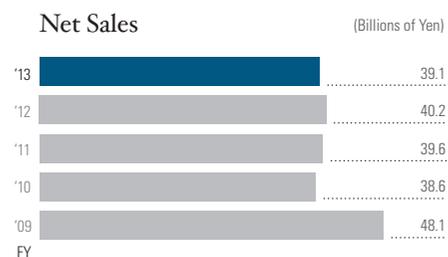
Sales by the analysis and research operations remained solid but edged downward in fiscal 2013. The decline can be mainly attributed to a poor business climate and to cost-reduction programs at Tosoh Group companies. Analysis and research operations seek to promote their services and to raise their non-group sales.

Tosoh's analysis and research operations continued to install new equipment to upgrade the level and scope of their testing capabilities. During fiscal 2013, each of these operations' different sections focused on specialized technologies essential to their services.

Strategies and Outlook

In fiscal 2014, analysis and research operations will take further steps to boost their technical capabilities and reputations. They will intensify their concentration on providing specialized technology services. They also will push forward with a project to build an analysis and research service center for Tosoh Group companies in the vicinity of the Nanyo Complex. Major initial clients of the center will include NPU and Tosoh Finechem Corporation.

With higher sales to Tosoh Group and non-group companies, Tosoh anticipates a slight increase in sales for its analysis and research operations in fiscal 2014.



INFORMATION SYSTEMS

The company's information systems business maintains more than 300 servers, nearly 8,000 personal computers, and around 170 networks across 44 companies. That work spans administrative and factory operation systems. Information systems also has developed and introduced an enterprise resource planning system that allows Tosoh management to assess the performance of Tosoh Group members quickly and easily.

Performance and Markets

Sales by Tosoh's information systems operations rose in fiscal 2013, exceeding forecasts. Throughout the fiscal year, information systems introduced innovative technology and worked to improve processes. It completed, for instance, the setup of private cloud computing and backup services at the Nanyo and Yokkaichi Complexes and then pursued a project to make these services available to all in the Tosoh Group. Information systems is installing the services in stages as group companies upgrade or replace their servers.

Among other ongoing projects, information systems installed various information and communications technology (ICT) systems at Tosoh Corporation and at Tosoh Group companies. The Nanyo and Yokkaichi Complexes received plant information (PI) web services and PI systems. Information systems also expanded its cyber-schooling software services to include 15 companies that service 3,956 users. In addition,

it has now installed web conferencing systems in 31 departments of 9 companies.

Strategies and Outlook

Information systems is tasked with evaluating and introducing new technology, with planning and introducing new systems and services, with maintaining and upgrading systems and services, and with reducing IT costs for the Tosoh Group. In fiscal 2014, information systems will continue its improvements to the Group's core IT systems.

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The company's information systems business maintains more than 300 servers, nearly 8,000 personal computers, and around 170 networks across 44 companies.
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Information systems is reinforcing the skills of its staff members by managing their education and training progress. Some of the specific areas being addressed are writing applications for the Group's core IT systems, better capabilities in a diverse range of programming languages, and expanded innovation and processes improvement skills.

FINANCIAL REVIEW

Throughout most of calendar year 2012, the Japanese economy suffered from extremely poor business and political conditions. A territorial dispute with China in particular soured Japan's business relations with that country.

Japanese exports and manufacturing contracted substantially. The cause was falling external demand precipitated by stagnation in European economies and a slowdown in the Chinese economy. Capital investment, moreover, weakened in reaction to a loss of momentum in consumer spending. As the benefits of the Japanese government's economic policies tapered off and concern about the economy's direction heightened, consumer spending waned.

A change in government at the end of calendar 2012, however, altered the mood in Japan. There was a broad recovery in stock prices in the wake of the market's positive evaluation of the new government's bold monetary

and public spending policies. And export conditions improved as the yen weakened against other currencies and as the global economy began to recover. The combination of these factors heightened expectations of an economic recovery in Japan.

Tosoh spent the first three quarters of its fiscal year 2013 dealing with its VCM production and other issues, including the general malaise in the Japanese and world economies and the disadvantages of a strong yen. On a more positive note, the company achieved price increases for caustic soda, ethyleneamines, and polyethylene resins. And Tosoh's nonoperating income received a boost from

substantial insurance claims stemming from the accident at the Nanyo Complex.

The continued upswing in the average annual price for naphtha, a key raw material for chemical makers, underpinned higher product prices domestically and internationally. The price of naphtha increased from ¥54,925 per kiloliter in fiscal 2012 to ¥57,450 per kiloliter in fiscal 2013.

NET SALES

Harsh business conditions throughout most of the fiscal year under review notwithstanding, a strong fourth quarter supported a solid performance by the Tosoh Group. Consolidated net sales declined, but only 2.7%, to ¥668.5 billion (US\$7.1 billion).

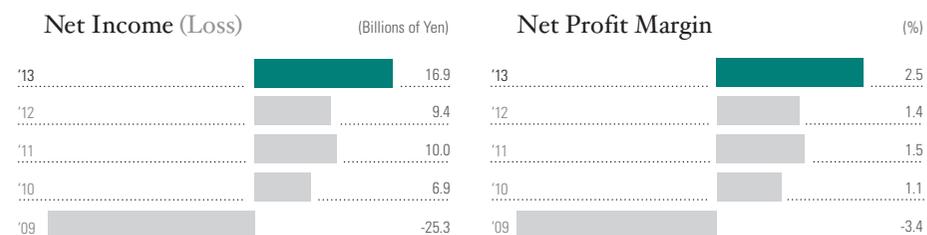
OPERATING EXPENSES AND OPERATING INCOME

Our cost of sales decreased 3.1%, to ¥549.9 billion (US\$5.8 billion). Gross profit contracted 0.8%, to ¥118.6 billion (US\$1.3 billion). And the gross profit margin rose to 17.7%, from 17.4% a year earlier.

Selling, general and administrative expenses declined 1.7%, to ¥94.1 billion (US\$1.0 billion). R&D expenditures decreased 5.2%, to ¥12.2 billion (US\$129.8 million).

Operating income climbed 3.1%, to ¥24.5 billion (US\$260.1 million). Among other income (expenses), Tosoh booked substantial foreign exchange gains of ¥5.9 billion (US\$63.1 million), compared with losses of ¥0.9 billion in fiscal 2012.

The company, however, recorded losses in fiscal 2013 on the explosion and fire at the Nanyo Complex's No. 2 Vinyl Chloride Monomer Plant. Those losses amounted to ¥1.3 billion



(US\$14.0 million) and were in addition to related losses of ¥2.4 billion in the previous fiscal year. These amounts, though, were more than offset in the year under review by insurance income totaling ¥7.0 billion (US\$74.7 million). Compensation for damage income was down significantly in fiscal 2013 compared with the large amount received in fiscal 2012 for a fly ash chelating agent patent infringement.

Overall, though, Tosoh reported net other income of ¥7.2 billion (US\$76.1 million) in fiscal 2013, compared with net other expenses of ¥1.9 billion in the previous fiscal year. Income before income taxes and minority interests rose 44.6%, to ¥31.6 billion (US\$336.2 million).

NET INCOME

Minority interests in the net income of subsidiaries totaled ¥1.3 billion (US\$13.9 million) in fiscal 2013, compared with ¥884.0 million a year earlier. As a result, the Tosoh Group reg-

istered net income of ¥16.9 billion (US\$179.3 million), up 79.8% from fiscal 2012. Net income per share, undiluted, amounted to ¥28.17 (US\$0.30), compared with ¥15.67 in the previous fiscal year. Tosoh maintained its annual dividend per share at ¥6.00 (US\$0.06).

PERFORMANCE BY GEOGRAPHIC REGION

Export sales and sales outside Japan by overseas subsidiaries were ¥243.3 billion (US\$2.6 billion) in fiscal 2013. This amount represented 36.4% of consolidated net sales, up 0.7 percentage points from fiscal 2012. Sales in Asia accounted for ¥176.6 billion (US\$1.9 billion) of total export sales and sales outside Japan and for 26.4% of consolidated net sales, a slight dip of 0.5 percentage points from a year earlier.

DIVIDEND POLICY

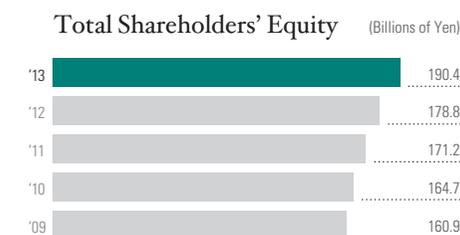
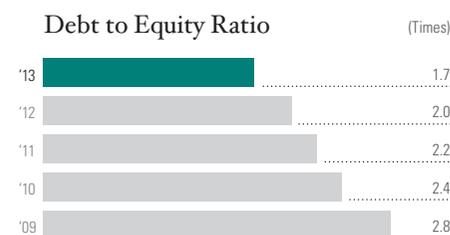
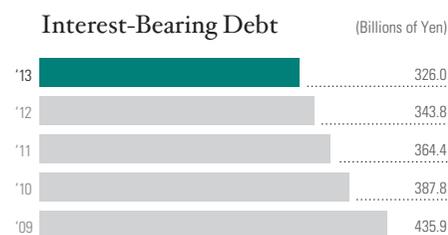
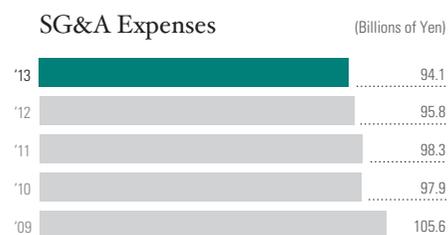
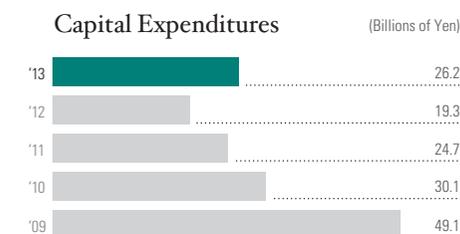
Tosoh aims to maintain a balance between its internal reserves for R&D and capital expenditures, which are designed to sustain steady high growth, and its returns to its shareholders. The company intends to provide a stable dividend to shareholders on a continuous basis, subject to business conditions.

In fiscal 2013, Tosoh's annual dividends per share were ¥6.00 (US\$0.06). As a result, the consolidated payout ratio for the year under review was 21.3%. Tosoh will continue to invest its internal reserves in competitive product development and global business strategies in a bid to respond to anticipated changes in its business environment.

FINANCIAL POSITION AND LIQUIDITY

FUND PROCUREMENT AND LIQUIDITY MANAGEMENT

Tosoh raises working capital as necessary through short-term bank loans and other means. The company decides on the funding method for its long-term capital requirements, such as capital investment, after determining the investment recovery period and risk. In fiscal 2013, Tosoh financed its capital expenditure and R&D activities primarily from cash provided by operating activities.



ASSETS, LIABILITIES, AND NET ASSETS

Current assets as of March 31, 2013, rose 7.9% from a year earlier, to ¥411.1 billion (US\$4.4 billion). Cash and cash equivalents declined 14.8%, to ¥57.4 billion (US\$609.9 million). Among the major components of current assets, trade receivables increased 19.8%, to ¥198.3 billion (US\$2.1 billion), while inventories were up 5.6%, to ¥128.7 billion (US\$1.4 billion).

Current liabilities rose 9.4% from the previous fiscal year, to ¥366.5 billion (US\$3.9 billion) in fiscal 2013. Working capital, therefore, totaled ¥44.7 billion (US\$474.8 million), compared with ¥46.0 billion a year earlier. The current ratio was 1.12 times, a decrease from 1.14 times in fiscal 2012.

Property, plant and equipment contracted 4.3%, to ¥240.5 billion (US\$2.6 billion). However, significant increases in current assets and in investments drove total assets up 3.7% from a year earlier, to ¥735.1 billion (US\$7.8 billion). Interest-bearing debt was ¥326.0 billion (US\$3.5 billion) as of March 31, 2013, down from ¥343.8 billion at the previous fiscal year-end. Long-term debt continued its downward trend, dropping 15.4%, to ¥122.7 billion (US\$1.3 billion).

Total shareholders' equity rose 6.5% year on year, to ¥190.4 billion (US\$2.0 billion), mainly because of a 10.5% rise in retained earnings, to ¥120.5 billion (US\$1.3 billion). Net unrealized gains on securities reflected

the sharp rise in stock prices at fiscal year-end and soared 154.1%, to ¥4.9 billion (US\$52.4 million).

Among total accumulated other comprehensive income, foreign currency translation adjustments—chiefly the effect of exchange rates on the net assets of overseas Tosoh Group companies—reduced net assets ¥7.1 billion (US\$75.7 million) in fiscal 2013. This compares with ¥10.5 billion a year earlier. Total net assets edged up 9.5% year on year, to ¥219.3 billion (US\$2.3 billion). Net assets per share totaled ¥315.15 (US\$3.35), compared with ¥285.88 a year earlier. Return on average total net assets was 9.5%, and the net asset ratio was 25.7%, compared with 24.1% in fiscal 2012.

CAPITAL EXPENDITURES AND DEPRECIATION

CASH FLOWS

Net cash provided by operating activities was ¥36.1 billion (US\$383.6 million), a decrease from ¥55.3 billion in fiscal 2012. The principal sources of cash were depreciation and amortization and an increase in trade payables. The major uses of cash were an increase in trade receivables and other, net.

Investing activities absorbed ¥23.4 billion (US\$249.3 million) in cash flows, up from ¥17.6 billion in the previous fiscal year. Increased payments for the purchases of property, plant

and equipment, increased proceeds from sales of stocks of subsidiaries and affiliates, and increased proceeds from collections of long-term loans receivable resulted in an overall rise in investment cash flows.

Free cash flow, therefore, was positive. The excess of cash flows from operating activities over the cash absorbed in investing activities amounted to ¥12.6 billion (US\$134.3 million), compared with free cash flow of ¥37.7 billion in fiscal 2012.

Net cash used in financing activities was ¥24.5 billion (US\$260.7 million), compared with ¥22.7 billion in the previous year. The principal reason for the increase in net cash used was the increase in cash dividends paid. There was a ¥21.6 billion (US\$229.1 million) net decrease in long-term debt, compared with a net decrease of ¥21.2 billion in fiscal 2012. Cash and cash equivalents on March 31, 2013, were ¥57.4 billion (US\$609.9 million), down 14.8% from a year earlier.

PROJECTIONS FOR FISCAL 2014

Tosoh is anticipating growth in fiscal 2014. The company forecasts a substantial increase in net sales, to ¥730 billion, resulting in consolidated net income of ¥23 billion and operating income of ¥40 billion.

In preparing these sales and earnings projections for fiscal 2014, Tosoh's management has assumed an average exchange rate of

¥95 to the US dollar, compared with ¥80 in fiscal 2013. Management has also assumed an average naphtha cost—a benchmark of raw material costs in the chemical industry—of ¥62,000 per kiloliter in Japan, the same projection made for fiscal 2013.

Financial Statements

CONSOLIDATED BALANCE SHEETS

As of March 31, 2013 and 2012

	Millions of Yen		Thousands of US Dollars (Note 1)
	2013	2012	2013
ASSETS			
Current assets:			
Cash and cash equivalents (Notes 7 and 12)	¥ 57,358	¥ 67,360	\$ 609,867
Marketable securities (Notes 5 and 12)	6	7	64
Trade receivables (Notes 7 and 12)	198,289	165,563	2,108,336
Inventories (Note 3)	128,740	121,913	1,368,846
Deferred tax assets (Note 13)	7,010	6,293	74,535
Other current assets	20,469	20,468	217,639
Allowance for doubtful accounts	(761)	(709)	(8,091)
Total current assets	411,111	380,895	4,371,196
Investments:			
Investment securities (Notes 5 and 12)	27,465	22,471	292,026
Investments in unconsolidated subsidiaries and affiliates (Note 12)	16,193	17,377	172,174
Long-term loans receivable (Note 12)	366	379	3,892
Other	33,248	26,539	353,513
Allowance for doubtful accounts	(421)	(588)	(4,476)
Total investments	76,851	66,178	817,129
Property, plant and equipment—net (Notes 6 and 7)	240,546	251,239	2,557,640
Other assets:			
Deferred tax assets (Note 13)	4,201	7,117	44,668
Intangibles	2,393	3,292	25,444
Total other assets	6,594	10,409	70,112
Total assets	¥735,102	¥708,721	\$7,816,077

The accompanying notes are an integral part of these statements.

	Millions of Yen		Thousands of US Dollars (Note 1)
	2013	2012	2013
LIABILITIES AND NET ASSETS			
Current liabilities:			
Short-term bank loans (Notes 7 and 12)	¥149,800	¥146,120	\$1,592,769
Current maturities of long-term debt (Notes 7 and 12)	53,510	52,381	568,953
Trade payables (Note 12)	114,516	94,043	1,217,608
Income taxes payable	11,009	5,195	117,055
Other current liabilities (Note 12)	37,625	37,195	400,053
Total current liabilities	366,460	334,934	3,896,438
Long-term liabilities:			
Long-term debt, less current maturities (Notes 7 and 12)	122,685	145,058	1,304,466
Provision for retirement and severance benefits (Note 8)	17,323	17,589	184,189
Provision for retirement benefits for directors and corporate auditors	329	355	3,498
Deferred tax liabilities (Note 13)	4,865	6,879	51,728
Provision for losses on dissolution of business	963	1,623	10,239
Other long-term liabilities (Note 12)	3,191	2,087	33,929
Total long-term liabilities	149,356	173,591	1,588,049
Total liabilities	515,816	508,525	5,484,487
Contingent liabilities (Note 9)			
Shareholders' equity:			
Common stock:			
Authorized—1,800,000,000 shares;			
Issued—601,161,912 shares	40,634	40,634	432,047
Capital surplus	30,053	30,053	319,543
Retained earnings	120,503	109,047	1,281,265
Treasury stock, 2,257,596 shares in 2013 and 2,757,887 shares in 2012	(778)	(946)	(8,272)
Total shareholders' equity	190,412	178,788	2,024,583
Accumulated other comprehensive income:			
Net unrealized gains on securities	4,927	1,939	52,387
Deferred losses on hedges	(2)	(3)	(21)
Land revaluation reserve	533	888	5,667
Foreign currency translation adjustments	(7,122)	(10,544)	(75,726)
Total accumulated other comprehensive income	(1,664)	(7,720)	(17,693)
Stock acquisition rights (Note 16)	278	258	2,956
Minority interests	30,260	28,870	321,744
Total net assets	219,286	200,196	2,331,590
Total liabilities and net assets	¥735,102	¥708,721	\$7,816,077

CONSOLIDATED STATEMENTS OF INCOME

Years ended March 31, 2013 and 2012

	Millions of Yen		Thousands of US Dollars (Note 1)
	2013	2012	2013
Net sales (Note 14)	¥668,494	¥687,131	\$7,107,858
Cost of sales	549,913	567,614	5,847,029
Gross profit	118,581	119,517	1,260,829
Selling, general and administrative expenses (Note 10)	94,117	95,780	1,000,712
Operating income (Note 14)	24,464	23,737	260,117
Other income (expenses):			
Interest and dividend income	972	1,148	10,335
Foreign exchange gains (losses), net	5,935	(906)	63,105
Interest expense	(4,263)	(4,877)	(45,327)
Equity in earnings of affiliates	364	1,530	3,870
Insurance income	7,022	3,175	74,662
Compensation for damage income	232	2,018	2,467
Loss on disposal of property, plant and equipment	(789)	(626)	(8,389)
Related losses on explosive fire accident	(1,313)	(2,434)	(13,961)
Other, net	(1,000)	(894)	(10,632)
Subtotal	7,160	(1,866)	76,130
Income before income taxes and minority interests	31,624	21,871	336,247
Income taxes (Note 13):			
Current	14,800	8,154	157,364
Deferred	(1,346)	3,494	(14,312)
Subtotal	13,454	11,648	143,052
Income before minority interests	18,170	10,223	193,195
Minority interests	(1,303)	(844)	(13,854)
Net income	¥ 16,867	¥ 9,379	\$ 179,341
Net income per share:			
Net income—primary	¥28.17	¥15.67	\$0.30
Net income—diluted	28.12	15.65	0.30
Cash dividends per share	¥ 6.00	¥ 6.00	\$0.06

The accompanying notes are an integral part of these statements.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

Years ended March 31, 2013 and 2012

	Millions of Yen		Thousands of US Dollars (Note 1)
	2013	2012	2013
Income before minority interests	¥18,170	¥10,223	\$ 193,195
Other comprehensive income:			
Net unrealized gains (losses) on securities	2,874	(173)	30,558
Deferred gains (losses) on hedges	(2)	2	(21)
Foreign currency translation adjustments	3,419	(1,059)	36,353
Share of other comprehensive income of affiliates applied for equity method	177	(66)	1,882
Total other comprehensive income (Note 4)	6,468	(1,296)	68,772
Comprehensive income	¥24,638	¥ 8,927	\$261,967
Breakdown of comprehensive income:			
Comprehensive income attributable to shareholders of the parent	¥22,922	¥ 8,093	\$243,721
Comprehensive income attributable to minority interests	1,716	834	18,246

CONSOLIDATED STATEMENTS OF CHANGES IN NET ASSETS

Years ended March 31, 2013 and 2012

	Millions of Yen		Thousands of US Dollars (Note 1)
	2013	2012	2013
Shareholders' equity:			
Common stock			
Balance at beginning of year	¥ 40,634	¥ 40,634	\$ 432,047
Balance at end of year	40,634	40,634	432,047
Capital surplus			
Balance at beginning of year	30,053	30,053	319,543
Balance at end of year	30,053	30,053	319,543
Retained earnings			
Balance at beginning of year	109,047	101,486	1,159,458
Net income	16,867	9,379	179,341
Cash dividends	(5,395)	(1,798)	(57,363)
Disposal of treasury stock	(16)	(20)	(171)
Balance at end of year	120,503	109,047	1,281,265
Treasury stock			
Balance at beginning of year	(946)	(989)	(10,058)
Purchase of treasury stock	(6)	(59)	(64)
Decrease of treasury stock due to changes in shareholding ratio	101	—	1,074
Disposal of treasury stock	73	102	776
Balance at end of year	(778)	(946)	(8,272)
Total shareholders' equity			
Balance at beginning of year	178,788	171,184	1,900,990
Net income	16,867	9,379	179,341
Cash dividends	(5,395)	(1,798)	(57,363)
Purchase of treasury stock	(6)	(59)	(64)
Decrease of treasury stock due to changes in shareholding ratio	101	—	1,074
Disposal of treasury stock	57	82	605
Balance at end of year	¥190,412	¥178,788	\$2,024,583

	Millions of Yen		Thousands of US Dollars (Note 1)
	2013	2012	2013
Accumulated other comprehensive income:			
Net unrealized gains on securities			
Balance at beginning of year	¥ 1,939	¥ 2,167	\$ 20,617
Other, net	2,988	(228)	31,770
Balance at end of year	4,927	1,939	52,387
Deferred losses on hedges			
Balance at beginning of year	(3)	(5)	(32)
Other, net	1	2	11
Balance at end of year	(2)	(3)	(21)
Land revaluation reserve			
Balance at beginning of year	888	816	9,442
Other, net	(355)	72	(3,775)
Balance at end of year	533	888	5,667
Foreign currency translation adjustments			
Balance at beginning of year	(10,544)	(9,411)	(112,111)
Other, net	3,422	(1,133)	36,385
Balance at end of year	(7,122)	(10,544)	(75,726)
Total accumulated and other comprehensive income			
Balance at beginning of year	(7,720)	(6,433)	(82,084)
Other, net	6,056	(1,287)	64,391
Balance at end of year	¥ (1,664)	¥ (7,720)	\$ (17,693)
Stock acquisition rights			
Balance at beginning of year	¥ 258	¥ 258	\$ 2,743
Other, net	20	0	213
Balance at end of year	¥ 278	¥ 258	\$ 2,956
Minority interests			
Balance at beginning of year	¥ 28,870	¥ 28,504	\$ 306,964
Other, net	1,390	366	14,780
Balance at end of year	¥ 30,260	¥ 28,870	\$ 321,744
Total net assets			
Balance at beginning of year	¥200,196	¥193,513	\$2,128,613
Net income	16,867	9,379	179,341
Cash dividends	(5,395)	(1,798)	(57,363)
Purchase of treasury stock	(6)	(59)	(64)
Decrease of treasury stock due to changes in shareholding ratio	101	—	1,074
Disposal of treasury stock	57	82	605
Other, net	7,466	(921)	79,384
Balance at end of year	¥219,286	¥200,196	\$2,331,590

The accompanying notes are an integral part of these statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS

Years ended March 31, 2013 and 2012

	Millions of Yen		Thousands of US Dollars (Note 1)
	2013	2012	2013
Cash flows from operating activities:			
Income before income taxes and minority interests	¥ 31,624	¥ 21,871	\$ 336,247
Adjustments to reconcile income before income taxes and minority interests to net cash provided by operating activities:			
Depreciation and amortization	36,943	44,481	392,802
Increase (decrease) in provision for retirement and severance benefits	45	(3,077)	478
Interest and dividend income	(972)	(1,148)	(10,335)
Interest expense	4,263	4,877	45,327
Equity in earnings of affiliates	(364)	(1,530)	(3,870)
Loss on disposal of property, plant and equipment	789	626	8,389
(Increase) decrease in trade receivables	(30,446)	15,317	(323,721)
Increase in inventories	(5,008)	(7,223)	(53,248)
Increase (decrease) in trade payables	17,731	(1,303)	188,527
Other, net	(5,946)	(8,193)	(63,223)
Subtotal	48,659	64,698	517,373
Interest and dividends received	1,167	1,994	12,408
Interest paid	(4,349)	(4,841)	(46,241)
Income taxes paid	(9,401)	(6,529)	(99,957)
Net cash provided by operating activities	36,076	55,322	383,583
Cash flows from investing activities:			
Payments for purchases of property, plant and equipment	(24,023)	(19,360)	(255,428)
Proceeds from sales of stocks of subsidiaries and affiliates	1,974	—	20,989
Payments for advances of long-term loans receivable	(7,140)	(2,805)	(75,917)
Proceeds from collections of long-term loans receivable	7,246	3,116	77,044
Other, net	(1,505)	1,467	(16,002)
Net cash used in investing activities	(23,448)	(17,582)	(249,314)
Cash flows from financing activities:			
Net increase in short-term bank loans	2,924	987	31,090
Proceeds from long-term debt	30,965	29,391	329,240
Repayments of long-term debt	(52,516)	(50,564)	(558,384)
Cash dividends paid	(5,791)	(2,323)	(61,574)
Other, net	(100)	(152)	(1,063)
Net cash used in financing activities	(24,518)	(22,661)	(260,691)
Effect of exchange rate changes on cash and cash equivalents	1,725	(381)	18,341
Net increase (decrease) in cash and cash equivalents	(10,165)	14,698	(108,081)
Cash and cash equivalents at beginning of year	67,360	52,662	716,215
Increase in cash and cash equivalents due to newly consolidated subsidiary	163	—	1,733
Cash and cash equivalents at end of year	¥ 57,358	¥ 67,360	\$ 609,867

The accompanying notes are an integral part of these statements.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1—BASIS OF PRESENTING CONSOLIDATED FINANCIAL STATEMENTS

The accompanying consolidated financial statements of Tosoh Corporation (the "Company") and its consolidated domestic subsidiaries have been prepared in accordance with the provisions set forth in the Financial Instruments and Exchange Law of Japan and its related accounting regulations and in conformity with accounting principles generally accepted in Japan ("Japanese GAAP"), which are different in certain respects as to application and disclosure requirements from International Financial Reporting Standards. The accounts of the Company's overseas subsidiaries and affiliates are prepared in accordance with either International Financial Reporting Standards or US generally accepted accounting principles or Japanese GAAP, with consolidation adjustments for the specified five items, which are described in "Practical Solution on Unification of Accounting Policies Applied to Foreign Subsidiaries for Consolidated Financial Statements (PITF No. 18)" and "Practical Solution on Unification of Accounting Policies Applied to Associates Accounted for Using the Equity Method (PITF No. 24)," as applicable.

The accompanying consolidated financial statements have been restructured and translated into English from the consolidated financial statements of the Company prepared in accordance with Japanese GAAP and filed with the appropriate local finance bureau of the Ministry of Finance as required by the Financial Instruments and Exchange Law of Japan. Some supplementary information included in the statutory Japanese-language consolidated financial statements, but not required for fair presentation, is not presented in the accompanying consolidated financial statements.

The translations of the Japanese yen amounts into US dollars are included solely for the convenience of readers outside Japan, using the prevailing exchange rate at March 31, 2013, which was ¥94.05 to US\$1.00. The translations should not be construed as representations that the Japanese yen amounts have been, could have been, or could in the future be, converted into US dollars at this or any other rate of exchange.

NOTE 2—SUMMARY OF ACCOUNTING POLICIES

Consolidation and investments

The consolidated financial statements include the accounts of the Company and its significant subsidiaries. All significant intercompany transactions and accounts have been eliminated in the consolidation.

Investments in affiliates are, with minor exceptions, accounted for by the equity method. Equity in earnings of affiliates has been calculated by excluding unrealized intercompany profits.

In the elimination of investments in subsidiaries, the assets and liabilities of the subsidiaries, including the portion attributable to minority shareholders, are evaluated using the fair value at the time the Company acquired control of the respective subsidiary.

Translation of foreign currencies

Receivables and payables denominated in foreign currencies are translated into Japanese yen at the year-end rates, and the resulting translation adjustments are credited or charged to income.

Financial statements of consolidated overseas subsidiaries are translated into Japanese yen at the year-end rates, except that shareholders' equity accounts are translated at historical rates.

Cash and cash equivalents

Cash on hand, readily available deposits and short-term highly liquid investments with maturities not exceeding three months at the time of purchase are considered to be cash and cash equivalents.

Securities

Securities are classified into one of the following categories based on the intent of holding, resulting in the different measurement and accounting for the changes in fair value. Equity securities issued by subsidiaries and affiliates, which are not consolidated or accounted for using the equity method, are stated at cost as determined by the moving-average method. Available-for-sale securities with available fair values are stated at fair value. Unrealized gains and losses on these securities are reported, net of applicable income taxes, as a separate component of net assets. Other available-for-sale securities with no available fair values are stated at moving-average cost.

Significant declines in fair value or the net asset value of equity securities, not on the equity method, issued by unconsolidated subsidiaries and affiliates, and available-for-sale securities judged to be other than temporary are charged to income.

Allowance for doubtful accounts

The Company and its consolidated subsidiaries (the "Companies") provide the allowance for doubtful trade receivables by individually estimating uncollectible amounts and for other receivables based on the Companies' historical experience of write-offs of such receivables.

Inventories

Inventories are principally valued at cost as determined by the average cost method. If the profitability of the inventories decrease, the book value is reduced accordingly.

Property, plant and equipment, and depreciation

Property, plant and equipment are stated at cost. Cumulative amounts of impairment losses recognized have been deducted from acquisition costs. Depreciation is principally computed over the estimated useful lives of the assets on the declining basis. However, the straight-line basis is applied to buildings. Repairs, maintenance and minor renewals are charged to expenses as incurred.

In accordance with taxation reform for fiscal year 2011, property, plant and equipment acquired on and after April 1, 2012 are depreciated using a method under the revised Corporate Tax Law of Japan.

The effect of this change was to increase operating income by ¥576 million (US\$6,124 thousand) and income before income taxes and minority interests by ¥584 million (US\$6,209 thousand), respectively.

Lease transactions

Assets acquired by lessees in finance lease transactions are recorded in the corresponding asset accounts. However, finance leases of which the ownership is considered to have been transferred to the lessee and whose commencement dates started prior to March 31, 2008, are accounted for in the same manner as operating leases.

Provision for retirement and severance benefits

The Companies provide two types of post-employment benefit plans: unfunded lump-sum payment plans and funded contributory pension plans.

The Companies provide an allowance for employees' retirement and severance benefits based on the estimated amounts of the projected benefit obligation, actuarially calculated using certain assumptions, and the fair value of the plan assets.

Prior service cost (credit) is recognized as expense (income) as incurred.

Actuarial loss (gain) is recognized as expense (income) using the straight-line method over 10 years commencing in the following period.

Income taxes

The asset and liability approach is used to recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes.

Shareholders' equity

The Corporate Law of Japan (the "Law") requires that an amount equal to 10% of dividends must be appropriated as a legal reserve (a component of retained earnings) or as additional paid-in capital (a component of capital surplus), depending on the equity account charged upon payment of such dividends, until the aggregate amount of legal reserve and additional paid-in capital equals 25% of common stock. Under the Law, the aggregate amount of additional paid-in capital and legal reserve that exceeds 25% of common stock may be made available for dividends by resolution of the shareholders. Under the Law, the total amount of additional paid-in capital and legal reserve may be reversed without limitation of such threshold. The Law also provides that common stock, legal reserve, additional paid-in capital, other capital surplus and retained earnings can be transferred among the accounts under certain conditions upon resolution of the shareholders.

The maximum amount that the Company can distribute as dividends is calculated based on the nonconsolidated financial statements of the Company in accordance with the Law.

Stock options

The Company has adopted an accounting standard for stock options. The standard requires companies to account for stock options granted to nonemployees based on the fair value of the

stock option. In the balance sheets, the stock option is presented as stock acquisition rights as a separate component of net assets until exercised.

Net income per share

Net income per share is computed based upon the weighted average number of shares of common stock outstanding during the period.

Diluted net income per share reflects the potential dilution that could occur if stock options were fully exercised.

Reclassifications

Certain prior year amounts have been reclassified to conform to the current year presentation.

Accounting standards issued but not yet effective

"Accounting Standard for Retirement Benefits" (ASBJ Statement No. 26) and "Guidance on Accounting Standard for Retirement Benefits" (ASBJ Guidance No. 25) were revised on May 17, 2012. However, these accounting standards have not yet been adopted by the company as of March 31, 2013. Under these revised accounting standards, the accounting treatment of unrecognized actuarial gain or loss and prior service cost and the calculation method of retirement benefit obligations and service cost and disclosures were mainly revised. These revisions were made considering the viewpoint of enhancing financial reporting and international convergence of accounting standards.

The Company and its domestic subsidiaries will adopt these accounting standards effective the fiscal year ending March 31, 2014. However, the revisions for the calculation method of retirement benefit obligations and service cost will be adopted effective the fiscal year beginning April 1, 2014. At present, the Company is in the process of evaluating the impact on the consolidated financial statements from the adoption of these revised accounting standards.

NOTE 3—INVENTORIES

Inventories as of March 31, 2013 and 2012 consisted of the following:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2013	2012	2013
Finished products	¥ 81,910	¥ 72,133	\$ 870,920
Raw materials and supplies	36,650	40,885	389,686
Work in process	10,180	8,895	108,240
Total	¥128,740	¥121,913	\$1,368,846

NOTE 4—COMPREHENSIVE INCOME

Amounts reclassified to net income (loss) in the current period that were recognized in other comprehensive income in the current or previous periods and tax effects for each component of other comprehensive income were as follows:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2013	2012	2013
Unrealized gains (losses) on securities			
Increase (decrease) during the year	¥ 3,999	¥ (552)	\$ 42,520
Reclassification adjustments	456	—	4,848
Subtotal, before tax	4,455	(552)	47,368
Tax (expense) or benefit	(1,581)	379	(16,810)
Subtotal, net of tax	¥ 2,874	¥ (173)	\$ 30,558
Deferred gains (losses) on hedges			
Increase (decrease) during the year	¥ (0)	¥ 4	\$ (0)
Reclassification adjustments	(3)	(1)	(32)
Subtotal, before tax	(3)	3	(32)
Tax (expense) or benefit	1	(1)	11
Subtotal, net of tax	¥ (2)	¥ 2	\$ (21)
Foreign currency translation adjustments			
Increase (decrease) during the year	¥ 3,419	¥(1,059)	\$ 36,353
Subtotal, net of tax	¥ 3,419	¥(1,059)	\$ 36,353
Share of other comprehensive income of associates accounted for using equity method			
Increase (decrease) during the year	¥ 177	¥ (19)	\$ 1,882
Reclassification adjustments	(0)	(47)	(0)
Subtotal, net of tax	¥ 177	¥ (66)	\$ 1,882
Total other comprehensive income	¥ 6,468	¥(1,296)	\$ 68,772

NOTE 5—FAIR VALUE INFORMATION OF SECURITIES

The following tables summarize acquisition costs, book values and fair values of securities with available fair values as of March 31, 2013 and 2012.

Available-for-sale securities:

	Millions of Yen					
	2013			2012		
	Acquisition cost	Book value	Difference	Acquisition cost	Book value	Difference
Securities with book values exceeding acquisition costs	¥ 9,451	¥ 17,866	¥8,415	¥ 7,026	¥12,139	¥ 5,113
Securities with book values not exceeding acquisition costs	5,875	5,019	(856)	7,711	5,725	(1,986)
Total	¥15,326	¥22,885	¥7,559	¥14,737	¥17,864	¥ 3,127

	Thousands of US Dollars (Note 1)		
	2013		
	Acquisition cost	Book value	Difference
Securities with book values exceeding acquisition costs	\$100,489	\$189,963	\$89,474
Securities with book values not exceeding acquisition costs	62,467	53,365	(9,102)
Total	\$162,956	\$243,328	\$80,372

NOTE 6—PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment as of March 31, 2013 and 2012 consisted of the following:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2013	2012	2013
Land	¥ 73,462	¥ 73,749	\$ 781,095
Buildings and structures	207,474	198,445	2,205,997
Machinery and equipment	763,260	748,551	8,115,470
Lease assets	316	264	3,360
Construction in progress	10,843	17,373	115,290
	1,055,355	1,038,382	11,221,212
Less accumulated depreciation	(814,809)	(787,143)	(8,663,572)
Net property, plant and equipment	¥ 240,546	¥ 251,239	\$ 2,557,640

NOTE 7—SHORT-TERM BANK LOANS AND LONG-TERM DEBT

Short-term bank loans (partially secured) bore interest at weighted average annual rates of 0.82% and 0.90% as of March 31, 2013 and 2012, respectively. Such loans are generally renewable at maturity.

Long-term debt as of March 31, 2013 and 2012 consisted of the following:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2013	2012	2013
Loans from banks and other financial institutions, 1.46%, maturing serially through 2023			
Secured	¥ 2,560	¥ 3,580	\$ 27,220
Unsecured	173,635	193,859	1,846,199
	176,195	197,439	1,873,419
Less amounts due within 1 year	(53,510)	(52,381)	(568,953)
Total	¥122,685	¥145,058	\$1,304,466

Assets pledged as collateral to secure primarily short-term bank loans and long-term debt as of March 31, 2013 and 2012 were as follows:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2013	2012	2013
Property, plant and equipment	¥17,320	¥19,900	\$184,157
Other	240	263	2,552
Total	¥17,560	¥20,163	\$186,709

The annual maturities of long-term debt as of March 31, 2013 and 2012 were as follows:

As of March 31, 2013	Millions of Yen	Thousands of US Dollars (Note 1)
	2014	¥ 53,510
2015	35,605	378,576
2016	29,354	312,111
2017	20,225	215,045
2018	13,354	141,988
2019 and thereafter	24,147	256,746
Total	¥176,195	\$1,873,419

	Millions of Yen
As of March 31, 2012	
2013	¥ 52,381
2014	49,733
2015	31,203
2016	24,881
2017	15,970
2018 and thereafter	23,271
Total	¥197,439

NOTE 8—PROVISION FOR RETIREMENT AND SEVERANCE BENEFITS

The liabilities for retirement and severance benefits as of March 31, 2013 and 2012 were as follows:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2013	2012	2013
Projected benefit obligation	¥ 70,673	¥ 67,865	\$ 751,441
Fair value of pension assets	(62,515)	(61,346)	(664,700)
Unfunded benefit obligation	8,158	6,519	86,741
Unrecognized actuarial loss	(9,341)	(7,782)	(99,319)
Net benefit obligation	(1,183)	(1,263)	(12,578)
Prepaid pension cost	18,506	18,852	196,767
Provision for retirement and severance benefits	¥ 17,323	¥ 17,589	\$ 184,189

Retirement benefit costs for the years ended March 31, 2013 and 2012 were as follows:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2013	2012	2013
Service costs	¥ 2,702	¥ 2,811	\$ 28,729
Interest costs on projected benefit obligation	1,430	1,552	15,205
Expected return on pension assets	(1,209)	(1,232)	(12,855)
Amortization of actuarial loss	1,153	1,742	12,259
Other	236	282	2,510
Retirement and severance benefit costs	¥ 4,312	¥ 5,155	\$ 45,848

The assumptions and basis used in the calculation of retirement benefit obligation were mainly as follows:

	2013	2012
Discount rate	1.5%	2.5%
Expected return rate for plan assets	2.5%	2.5%
Amortization period for prior service cost	1 year	1 year
Amortization period for actuarial differences	10 years	10 years

The estimated amount of all retirement benefits to be paid at the future retirement dates is allocated equally to each service year using the estimated number of total service years.

NOTE 9—CONTINGENT LIABILITIES

Contingent liabilities primarily for loans from banks to affiliates, which are guaranteed by the Companies, for notes receivable discounted at banks with recourse, and for notes receivable endorsed as of March 31, 2013 and 2012, were as follows:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2013	2012	2013
Loans guaranteed	¥1,347	¥1,205	\$14,322
Notes receivable discounted	—	27	—
Notes receivable endorsed	19	38	202
Total	¥1,366	¥1,270	\$14,524

NOTE 10—RESEARCH AND DEVELOPMENT EXPENSES

Research and development expenses for the years ended March 31, 2013 and 2012, were as follows:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2013	2012	2013
Research and development expenses	¥12,208	¥12,880	\$129,803

NOTE 11—DERIVATIVE FINANCIAL INSTRUMENTS AND HEDGING TRANSACTIONS

Derivative transactions to which hedging accounting is not applied as of March 31, 2013 and 2012, were as follows:

	Millions of Yen				Thousands of US Dollars (Note 1)	
	2013		2012		2013	
	Contract amount	Fair value	Contract amount	Fair value	Contract amount	Fair value
Foreign currency forward exchange contracts						
Buying US dollars	¥436	¥(1)	¥343	¥46	\$4,636	\$(11)
Total	¥436	¥(1)	¥343	¥46	\$4,636	\$(11)

Derivative transactions to which hedging accounting is applied as of March 31, 2013 and 2012, were as follows

	Millions of Yen				Thousands of US Dollars (Note 1)	
	2013		2012		2013	
	Contract amount	Fair value	Contract amount	Fair value	Contract amount	Fair value
Foreign currency forward exchange contracts						
Buying US dollars	¥ 75	¥(0)	¥ 68	¥ 4	\$ 797	\$(0)
Buying euros	3	(0)	0	0	32	(0)
Total	¥ 78	¥(0)	¥ 68	¥ 4	\$ 829	\$(0)
Interest rate swaps						
Payment fixation and receipt change	¥6,460	(*)	¥7,500	(*)	\$68,687	(*)
Total	¥6,460	(*)	¥7,500	(*)	\$68,687	(*)

(*) Because interest rate swaps are processed with long-term debt as a hedge object, the fair value is included in the fair value of a long-term debt (Note 12).

The fair value of currency swap contracts is based on the quotes provided by financial institutions.

NOTE 12—FINANCIAL INSTRUMENTS

Matters relating to the conditions of financial instruments:

Policy on financial instruments

The Tosoh Group raises capital according to loans from banks to invest in core and growing businesses based on capital investment plans. Derivatives are used to mitigate risk, and speculative transactions are not undertaken.

Contents, risk, and risk management of financial instruments

Trade receivables are exposed to credit risks on customers. The Companies monitor the due dates and the balances of customers individually in accordance with credit control rules and strive to find doubtful debt at an early stage and to reduce the risks. Securities, which are mainly shares, are exposed to market risks. Regarding listed shares, the Companies check the market prices every quarter and revise their positions consistently, taking account of relations with companies who issue the shares.

Part of trade payables are denominated in foreign currency, which are exposed to foreign currency risks. However, almost all those balances may be offset at any time by accounts receivables, which are also denominated in foreign currency. Loans payable are used as short-term working capital or long-term capital investment, part of which is exposed to interest rate risk. These risks are removed by entering into interest rate swaps.

Some consolidated subsidiaries use foreign currency forward exchange contracts to hedge against foreign currency risks associated with receivables and payables denominated in foreign currencies.

The Companies execute and control derivatives transactions in accordance with internal control rules that provide authority and transaction limits and have transactions only with the highest-rated banks to reduce the credit risks.

The following tables summarize book values and fair values of financial instruments for which it is practical to estimate values as of March 31, 2013 and 2012:

	Millions of Yen		
	March 31, 2013		
	Book value	Fair value	Difference
Cash and cash equivalents	¥ 57,358	¥ 57,358	¥ —
Trade receivables	198,289	198,289	—
Securities			
Available-for-sale securities	22,885	22,885	—
Investments in affiliates	9,327	8,558	(769)
Long-term loans receivable	1,085	1,091	6
Trade payables	(114,516)	(114,516)	—
Short-term bank loans	(149,800)	(149,800)	—
Long-term debt	(176,195)	(178,234)	(2,039)
Derivative transactions	(2)	(2)	—

	Millions of Yen		
	March 31, 2012		
	Book value	Fair value	Difference
Cash and cash equivalents	¥ 67,360	¥ 67,360	¥ —
Trade receivables	165,563	165,563	—
Securities			
Available-for-sale securities	17,864	17,864	—
Investments in affiliates	10,610	11,531	921
Long-term loans receivable	1,516	1,528	12
Trade payables	(94,043)	(94,043)	—
Short-term bank loans	(146,120)	(146,120)	—
Long-term debt	(197,439)	(199,538)	(2,099)
Derivative transactions	50	50	—

	Thousands of US Dollars (Note 1)		
	March 31, 2013		
	Book value	Fair value	Difference
Cash and cash equivalents	\$ 609,867	\$ 609,867	\$ —
Trade receivables	2,108,336	2,108,336	—
Securities			
Available-for-sale securities	243,328	243,328	—
Investments in affiliates	99,171	90,994	(8,177)
Long-term loans receivable	11,536	11,600	64
Trade payables	(1,217,608)	(1,217,608)	—
Short-term bank loans	(1,592,769)	(1,592,769)	—
Long-term debt	(1,873,419)	(1,895,099)	(21,680)
Derivative transactions	(21)	(21)	—

Calculation method of fair value of financial instruments

Cash and cash equivalents, trade receivables, trade payables and short-term bank loans

The book values approximate fair values because of the short-term nature of these instruments.

Securities

Fair values of securities are estimated based on quoted market prices for these instruments.

Long-term loans receivable

The fair values of long-term loans receivable are calculated by discounting future cash flows of the principal and interest using the current interest rate applicable to similar loans.

Long-term debt

The fair values of long-term debt are calculated by discounting future cash flows of the principal and interest using current interest rate applicable to similar debts.

Derivative transactions

Refer to Note 11

Financial instruments whose fair values are deemed to be extremely difficult to determine are indicated below and are not included in "Securities" in the fair value information of the financial instrument.

	Book value		Thousands of US Dollars (Note 1)
	Millions of Yen		
	2013	2012	
Equity securities issued by unconsolidated subsidiaries and affiliates	¥5,150	¥4,630	\$54,758
Non-listed equity securities	4,586	4,614	48,761

Redemption schedule of monetary claims and available-for-sale securities with maturity as of March 31, 2013 and 2012:

	Millions of Yen			
	2013			
	Within 1 year	Over 1 year, within 5 years	Over 5 years, within 10 years	Over 10 years
Cash and cash equivalents	¥ 57,358	¥ —	¥—	¥—
Trade receivables	198,289	—	—	—
Securities				
Available-for-sale securities	6	—	—	—
Long-term loans receivable	467	506	71	40
Total	¥256,120	¥506	¥71	¥40

	Millions of Yen			
	2012			
	Within 1 year	Over 1 year, within 5 years	Over 5 years, within 10 years	Over 10 years
Cash and cash equivalents	¥ 67,360	¥ —	¥—	¥—
Trade receivables	165,563	—	—	—
Securities				
Available-for-sale securities	7	—	—	—
Long-term loans receivable	462	928	77	49
Total	¥233,392	¥928	¥77	¥49

	Thousands of US Dollars (Note 1)			
	2013			
	Within 1 year	Over 1 year, within 5 years	Over 5 years, within 10 years	Over 10 years
Cash and cash equivalents	\$ 609,867	\$ —	\$ —	\$ —
Trade receivables	2,108,336	—	—	—
Securities				
Available-for-sale securities	64	—	—	—
Long-term loans receivable	4,965	5,380	755	425
Total	\$2,723,232	\$5,380	\$755	\$425

Repayment schedule of lease debt as of March 31, 2013 and 2012:

	Millions of Yen				
	2013				
	Over 1 year, within 2 years	Over 2 years, within 3 years	Over 3 years, within 4 years	Over 4 years, within 5 years	Over 5 years
Lease debt	¥62	¥48	¥40	¥33	¥48

	Millions of Yen				
	2012				
	Over 1 year, within 2 years	Over 2 years, within 3 years	Over 3 years, within 4 years	Over 4 years, within 5 years	Over 5 years
Lease debt	¥64	¥44	¥30	¥24	¥49

	Thousands of US Dollars (Note 1)				
	2013				
	Over 1 year, within 2 years	Over 2 years, within 3 years	Over 3 years, within 4 years	Over 4 years, within 5 years	Over 5 years
Lease debt	\$659	\$510	\$425	\$351	\$510

Refer to Note 7 for schedule of long-term debt.

NOTE 13—INCOME TAXES

The Company and its consolidated domestic subsidiaries are subject to a number of income taxes, which, in the aggregate, indicated a statutory income tax rate in Japan of approximately 37.8% for the year ended March 31, 2013 and 40.4% for the year ended March 31, 2012.

The following table summarizes the significant differences between the statutory income tax rate and the Companies' actual income tax rate for the years ended March 31, 2013 and 2012:

	March 31, 2013	March 31, 2012
Statutory income tax rate	37.8%	40.4%
Increase (reduction) in taxes resulting from		
Equity in earnings of affiliates	(0.4)	(2.8)
Valuation allowance	6.3	22.0
Correction due to tax-rate change	—	(1.4)
Other	(1.2)	(4.9)
Actual income tax rate	42.5%	53.3%

Significant components of deferred tax assets and deferred tax liabilities as of March 31, 2013 and 2012 were as follows:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2013	2012	2013
Deferred tax assets:			
Operating loss carryforwards	¥ 28,854	¥ 26,714	\$ 306,794
Unrealized gains on intercompany transactions	6,968	5,884	74,088
Provision for retirement and severance benefits	7,498	7,709	79,724
Impairment loss on fixed assets	1,582	1,344	16,821
Other	9,707	8,757	103,212
Total gross deferred tax assets	54,609	50,408	580,639
Valuation allowance	(32,343)	(30,125)	(343,892)
Total deferred tax assets	22,266	20,283	236,747
Deferred tax liabilities:			
Reserve for replacement of property, plant and equipment	(2,066)	(2,039)	(21,967)
Net unrealized gains on securities	(2,720)	(1,144)	(28,921)
Other	(11,134)	(10,569)	(118,384)
Total deferred tax liabilities	(15,920)	(13,752)	(169,272)
Net deferred tax assets	¥ 6,346	¥ 6,531	\$ 67,475

Note: "Net deferred tax assets" above can be classified with accompanying consolidated balance sheets as of March 31, 2013 and 2012 as follows:

Balance sheet item	Millions of Yen		Thousands of US Dollars (Note 1)
	2013	2012	2013
Current assets	¥ 7,010	¥ 6,293	\$ 74,535
Non-current assets	4,201	7,117	44,668
Non-current liabilities	(4,865)	(6,879)	(51,728)
	¥ 6,346	¥ 6,531	\$ 67,475

NOTE 14—SEGMENT INFORMATION

The operations of the Companies are classified into four business segments: Petrochemical, Chlor-alkali, Specialty, Engineering.

Operations of the Petrochemical segment include the manufacture and sale of olefins and polymers.

Operations of the Chlor-alkali segment include the manufacture and sale of caustic soda, vinyl chloride monomer, polyvinyl chloride, high-performance polyurethane and cement.

Operations of the Specialty segment include the manufacture and sale of fine chemicals, scientific and diagnostic instruments and systems, quartz, specialty materials and metals.

Operations of the Engineering segment include water treatment equipment and construction.

The accounting methods for each reported segment are mostly described in Note 2, "Summary of Accounting Policies."

Intersegment sales and transfers are mainly based on market prices and manufacturing costs.

As given in Note 2, in accordance with taxation reform for fiscal year 2011, property, plant and equipment acquired on and after April 1, 2012 are depreciated using a method under the revised Corporate Tax Law of Japan. The effect of this change was to increase the operating income of "Petrochemical" by ¥95 million (US\$1,010 thousand), of "Chlor-alkali" by ¥246 million (US\$2,615 thousand), of "Specialty" by ¥200 million (US\$2,127 thousand), of "Engineering" by ¥22 million (US\$234 thousand) and of "Other" by ¥13 million (US\$138 thousand) for the year ended March 31, 2013.

Business segment information for the years ended March 31, 2013 and 2012 was as follows:

	Millions of Yen							
	Year ended March 31, 2013							
	Petrochemical	Chlor-alkali	Specialty	Engineering	Other	Total	Adjustments	Consolidated
Net sales:								
External customers	¥187,641	¥237,288	¥131,747	¥72,741	¥39,077	¥668,494	¥ —	¥668,494
Inter-segment	86,810	27,790	13,168	8,638	41,354	177,760	(177,760)	—
Total	¥274,451	¥265,078	¥144,915	¥81,379	¥80,431	¥846,254	¥(177,760)	¥668,494
Segment income (loss)	¥ 10,543	¥ (1,605)	¥ 8,982	¥ 4,361	¥ 2,183	¥ 24,464	¥ —	¥ 24,464
Segment assets	¥124,158	¥289,039	¥163,076	¥94,981	¥32,323	¥703,577	¥ 31,525	¥735,102
Depreciation and amortization	4,460	14,911	11,158	1,247	1,708	33,484	1,527	35,011
Amortization on goodwill	4	0	—	(2)	—	2	—	2
Capital expenditures	2,884	8,314	12,863	909	1,096	26,066	125	26,191
Investment for affiliates	970	5,414	5,924	1,768	1,361	15,437	—	15,437

	Millions of Yen							
	Year ended March 31, 2012							
	Petrochemical	Chlor-alkali	Specialty	Engineering	Other	Total	Adjustments	Consolidated
Net sales:								
External customers	¥193,324	¥243,793	¥135,267	¥74,526	¥40,221	¥687,131	¥ —	¥687,131
Inter-segment	86,905	28,412	11,866	7,495	42,432	177,110	(177,110)	—
Total	¥280,229	¥272,205	¥147,133	¥82,021	¥82,653	¥864,241	¥(177,110)	¥687,131
Segment income (loss)	¥ 12,498	¥ (9,970)	¥ 13,055	¥ 5,746	¥ 2,408	¥ 23,737	¥ —	¥ 23,737
Segment assets	¥121,549	¥249,650	¥160,167	¥94,251	¥31,357	¥656,974	¥ 51,747	¥708,721
Depreciation and amortization	6,181	18,669	13,110	1,284	1,792	41,036	2,204	43,240
Amortization on goodwill	—	—	—	13	—	13	—	13
Capital expenditures	5,427	4,775	6,730	647	869	18,448	856	19,304
Investment for affiliates	949	4,889	7,663	1,735	1,197	16,433	—	16,433

	Thousands of US Dollars (Note 1)							
	Year ended March 31, 2013							
	Petrochemical	Chlor-alkali	Specialty	Engineering	Other	Total	Adjustments	Consolidated
Net sales:								
External customers	\$1,995,120	\$2,522,998	\$1,400,819	\$ 773,429	\$415,492	\$7,107,858	\$ —	\$7,107,858
Inter-segment	923,019	295,481	140,011	91,845	439,702	1,890,058	(1,890,058)	—
Total	\$2,918,139	\$2,818,479	\$1,540,830	\$ 865,274	\$855,194	\$8,997,916	\$(1,890,058)	\$7,107,858
Segment income (loss)	\$ 112,100	\$ (17,065)	\$ 95,502	\$ 46,369	\$ 23,211	\$ 260,117	\$ —	\$ 260,117
Segment assets	\$1,320,128	\$3,073,248	\$1,733,929	\$1,009,899	\$343,679	\$7,480,883	\$ 335,194	\$7,816,077
Depreciation and amortization	47,422	158,542	118,639	13,259	18,161	356,023	16,236	372,259
Amortization on goodwill	43	0	—	(22)	—	21	—	21
Capital expenditures	30,665	88,400	136,767	9,665	11,653	277,150	1,330	278,480
Investment for affiliates	10,314	57,565	62,987	18,799	14,471	164,136	—	164,136

- Notes: 1. "Other" is an additional category for service-related businesses, such as transportation and warehousing, inspection and analysis, and information processing.
2. Segment income (loss) is equal to operating income of consolidated statements of income.
3. Adjustments amount of ¥31,525 million (US\$335,194 thousand) for segment assets included ¥31,851 million (US\$338,660 thousand) in eliminations of intersegment receivables and assets and ¥63,376 million (US\$673,854 thousand) of corporate assets unallocated to each reported segment. Corporate assets mainly consist of cash and deposits, investment securities and the assets related to administrative departments.
4. Adjustments amount of ¥1,527 million (US\$16,236 thousand) for depreciation and amortization was mainly corporate costs unallocated to each reported segment.
5. Adjustments amount of ¥125 million (US\$1,330 thousand) for capital expenditures was mainly made to corporate assets unallocated to each reported segment.

Related information:

Geographic information:

Millions of Yen					
Year ended March 31, 2013					
	Japan	China	Other Asian countries	Other	Total
Net sales	¥425,200	¥75,700	¥100,911	¥66,683	¥668,494

Millions of Yen					
Year ended March 31, 2012					
	Japan	China	Other Asian countries	Other	Total
Net sales	¥441,780	¥85,687	¥99,362	¥60,302	¥687,131

Thousands of US Dollars (Note 1)					
Year ended March 31, 2013					
	Japan	China	Other Asian countries	Other	Total
Net sales	\$4,520,999	\$804,891	\$1,072,951	\$709,017	\$7,107,858

Note: Net sales are classified by country or region based on the locations of customers.

Information about impairment loss of fixed assets by reported segments:

Millions of Yen								
Year ended March 31, 2013								
	Petrochemical	Chlor-alkali	Specialty	Engineering	Other	Total	Adjustments	Consolidated
Impairment loss	¥9	¥50	¥285	¥145	¥876	¥1,365	¥62	¥1,427

Millions of Yen								
Year ended March 31, 2012								
	Petrochemical	Chlor-alkali	Specialty	Engineering	Other	Total	Adjustments	Consolidated
Impairment loss	¥241	¥227	¥71	¥—	¥390	¥929	¥1	¥930

Thousands of US Dollars (Note 1)								
Year ended March 31, 2013								
	Petrochemical	Chlor-alkali	Specialty	Engineering	Other	Total	Adjustments	Consolidated
Impairment loss	\$96	\$532	\$3,030	\$1,542	\$9,314	\$14,514	\$659	\$15,173

Information about unamortized balance of goodwill by reported segments:

Millions of Yen								
Year ended March 31, 2013								
	Petrochemical	Chlor-alkali	Specialty	Engineering	Other	Total	Adjustments	Consolidated
Unamortized balance of goodwill	¥—	¥—	¥—	¥5	¥—	¥5	¥—	¥5

Millions of Yen								
Year ended March 31, 2012								
	Petrochemical	Chlor-alkali	Specialty	Engineering	Other	Total	Adjustments	Consolidated
Unamortized balance of goodwill	¥—	¥—	¥—	¥11	¥—	¥11	¥—	¥11

Thousands of US Dollars (Note 1)								
Year ended March 31, 2013								
	Petrochemical	Chlor-alkali	Specialty	Engineering	Other	Total	Adjustments	Consolidated
Unamortized balance of goodwill	\$—	\$—	\$—	\$53	\$—	\$53	\$—	\$53

NOTE 15—RELATED PARTY TRANSACTIONS

Yasushi Matsuda, a director of the Company, and his close relatives own the majority of the rights to vote of Matsuda Ironworks Co., Ltd. The transactions with Matsuda Ironworks Co., Ltd., as of March 31, 2012, were as follows:

	March 31, 2012
	Millions of Yen
Contract of construction	¥46

There were no balances or transaction to be disclosed as of and for the year ended March 31, 2013.

NOTE 16—STOCK OPTION PLANS

At March 31, 2013, the Company had the following stock option plans:

	2012 plan	2011 plan	2010 plan	2009 plan	2008 plan	2007 plan	2006 plan
Date of grant	July 14, 2012	July 16, 2011	July 17, 2010	July 18, 2009	July 19, 2008	July 18, 2007	September 27, 2006
Grantees	30 (including 11 directors)	31 (including 13 directors)	29 (including 14 directors)	28 (including 16 directors)	29 (including 16 directors)	29 (including 15 directors)	25 (including 15 directors)
Type of stock	Common stock	Common stock	Common stock	Common stock	Common stock	Common stock	Common stock
Number of shares granted	454,395	257,826	419,735	361,206	201,125	121,379	181,463
Exercise price (yen)	¥1	¥1	¥1	¥1	¥1	¥1	¥1
Exercise price (US dollars) (Note 1)	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$0.01
Exercisable period	July 15, 2012–2037	July 17, 2011–2036	July 18, 2010–2035	July 19, 2009–2034	July 20, 2008–2033	July 19, 2007–2032	September 28, 2006–September 27, 2031
Fair value at the date of grant (yen)	¥164	¥313	¥196	¥225	¥400	¥637	¥ 414
Fair value (US dollars) (Note 1)	\$1.74	\$3.81	\$2.36	\$2.42	\$4.07	\$6.36	\$3.51

NOTE 17—SUBSEQUENT EVENTS

At meetings of the Company's board of directors held on May 10, 2013 and May 10, 2012, retained earnings of the Company as of March 31, 2013 and 2012, were appropriated as follows:

	March 31, 2013	
	Millions of Yen	Thousands of US Dollars (Note 1)
Year-end cash dividends (¥3.00 per share)	¥1,799	\$19,128
	March 31, 2012	
	Millions of Yen	
Year-end cash dividends (¥6.00 per share)	¥3,596	

INDEPENDENT AUDITOR'S REPORT

To the Board of Directors of Tosoh Corporation:

We have audited the accompanying consolidated financial statements of Tosoh Corporation and its consolidated subsidiaries, which comprise the consolidated balance sheets as at March 31, 2013 and 2012, and the consolidated statements of income, consolidated statements of comprehensive income, consolidated statements of changes in net assets and consolidated statements of cash flows for the years then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in Japan, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatements, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in Japan. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgement, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, while the objective of the financial statement audit is not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of Tosoh Corporation and its consolidated subsidiaries as at March 31, 2013 and 2012, and their financial performance and cash flows for the years then ended in accordance with accounting principles generally accepted in Japan.

Convenience Translation

The U.S. dollar amounts in the accompanying consolidated financial statements with respect to the year ended March 31, 2013 are presented solely for convenience. Our audit also included the translation of yen amounts into U.S. dollar amounts and, in our opinion, such translation has been made on the basis described in Note 1 to the consolidated financial statements.

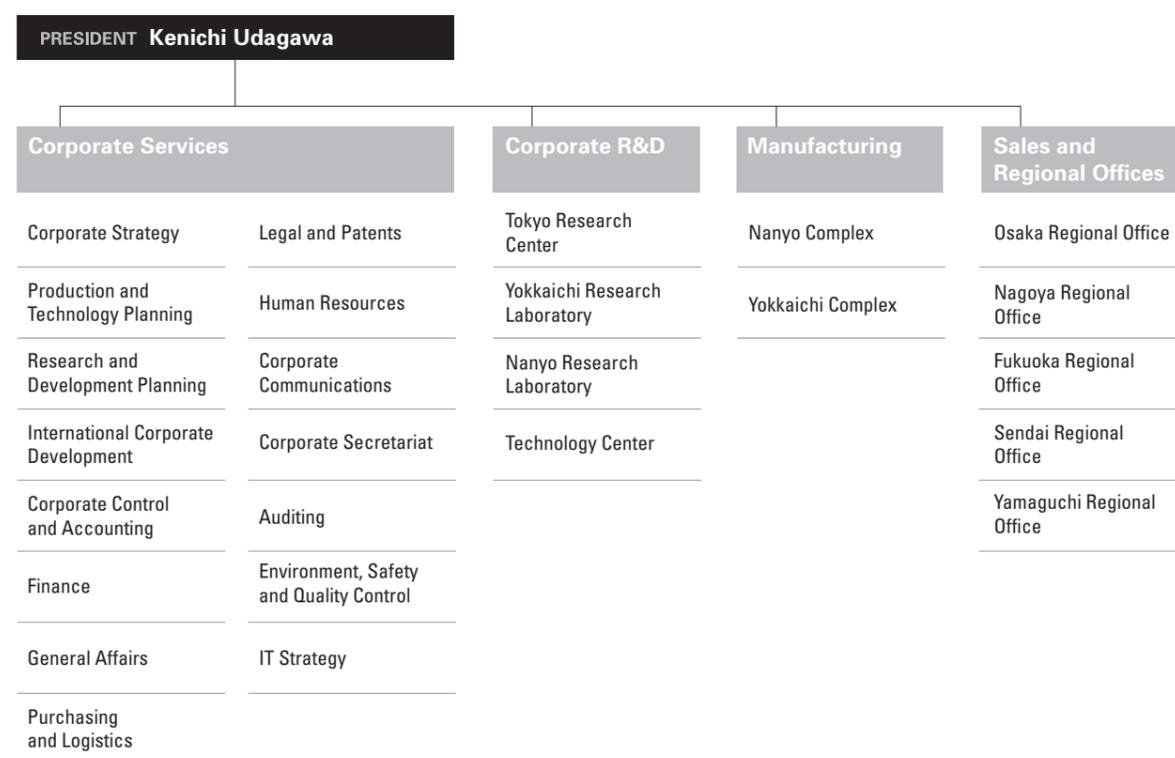
KPMG AZSA LLC

KPMG AZSA LLC

June 27, 2013
Tokyo, Japan

As of June 27, 2013

TOSOH CORPORATION



BUSINESS DIVISIONS

Olefins	Sales and marketing
Polymers	Planning and coordination, polyethylenes, high-performance polymers
Basic Chemicals	Planning and coordination, chlor-alkali sales and marketing
Cement	Planning and coordination
Organic Chemicals	Planning and business development, amines, bromine and flame retardants, eco-business
Bioscience	Planning and business development, sales, research and development, customer service, separation media production
Advanced Materials	Administration, planning and business development, electronic materials, battery materials, ceramics and zeolites

BASIC CHEMICALS/CHLOR-ALKALI

Tohoku Tosoh Chemical Co., Ltd.
Chlorinated chemicals
Japan
www.t-tosoh-chem.jp

Minami Kyushu Chemical Industry Co., Ltd.
Fertilizers
Japan
www.nakyu-c.co.jp

Rinkagaku Kogyo Co., Ltd.
Phosphorus compounds
Japan
www.rinka.co.jp

Mabuhay Vinyl Corporation
Caustic soda, chlorine derivatives
Philippines
www.mvc.com.ph

POLYVINYL CHLORIDE

Taiyo Vinyl Corporation
PVC resins
Japan
www.taiyo-vinyl.co.jp

Lonseal Corporation
PVC sheet
Japan
www.lonseal.co.jp

Plas-Tech Corporation
PVC compounds
Japan
www.plas-tech.co.jp

Taihei Chemicals Limited
PVC films and sheets, nitrocellulose
Japan
www.taihei-chemicals.com

Tokuyama Sekisui Co., Ltd.
PVC resins
Japan
www.tokuyamasekisui.co.jp

Toei Co., Ltd.
PVC films and sheets
Japan
<http://toei-chem.co.jp>

P.T. Standard Toyo Polymer
PVC resins
Indonesia

Philippine Resins Industries, Inc.
PVC resins
Philippines
www.prii.com.ph

Tosoh Polyvin Corporation
PVC compounds
Philippines

Tosoh (Guangzhou) Chemical Industries, Inc.
PVC resins
China
www.tosoh-guangzhou.com

PETROCHEMICALS

Hokuetsu Kasei Co., Ltd.
Synthetic resins
Japan
www.hokuetsukasei.co.jp

Rensol Co., Ltd.
Synthetic resins
Japan

Toyo Polymer Co., Ltd.
Synthetic resins
Japan

Sankyo Kasei Industry Corporation
Synthetic resins
Japan

Ace Pack Co., Ltd.
Synthetic resins
Japan
www.acepack.co.jp

Shinomura Chemical Industry Corporation
Paper, synthetic resins
Japan

ORGANIC CHEMICALS

Nippon Polyurethane Industry Co., Ltd.
Methylene diphenyl diisocyanate,
toluene diisocyanate, hexamethylene
diisocyanate, polyurethane derivatives
Japan
www.npu.co.jp

Tosoh Finechem Corporation
Dicalcium phosphate, titanium
trichloride, alkyl aluminum
Japan
www.tosoh-finechem.com

Tosoh F-TECH, Inc.
Fluorinated organic compounds
and derivatives
Japan
www.f-techinc.co.jp

Tosoh Organic Chemical Co., Ltd.
Organic intermediates
Japan
www.tosoh-organic.co.jp

Delamine B.V.
Ethyleneamines
The Netherlands
www.delamine.com

Hodogaya Chemical Co., Ltd.
Dyes, agrochemicals, fine chemicals
Japan
www.hodogaya.co.jp

SPECIALTY MATERIALS

Tosoh Hyuga Corporation
Electrolytic manganese dioxide
Japan

Tosoh Ceramics Co., Ltd.
Zirconia ceramic products
Japan

Tosoh Zeolum, Inc.
Zeolites
Japan

Tosoh Silica Corporation
Rubber and plastic silica filler
Japan
www.n-silica.co.jp

Tosoh Hellas A.I.C.
Electrolytic manganese dioxide
Greece
www.tosoh-hellas.gr

ELECTRONIC MATERIALS

Tosoh Speciality Materials Corporation
Thin film deposition materials
Japan
www.t-smc.co.jp

Tosoh Quartz Corporation
Fabricated quartzware
Japan
www.tqgj.co.jp

Tosoh SGM Corporation
Silica glass materials
Japan

Tosoh SMD, Inc.
Thin film deposition materials
United States
www.tosohsmd.com

Tosoh SMD Shanghai Co., Ltd.
Thin film deposition materials
China

Tosoh SMD Korea, Ltd.
Thin film deposition materials
Korea
www.tsmd.com

Tosoh SMD Taiwan, Ltd.
Thin film deposition materials
Taiwan
www.tsmd.com

Tosoh Quartz, Inc.
Fabricated quartzware
United States
www.tosohquartz.com

Tosoh Quartz Co., Ltd.
Fabricated quartzware
Taiwan

BIOSCIENCE BUSINESS

Tosoh Techno-System, Inc.
Analytical instrument maintenance
Japan

Tosoh Hi-Tec, Inc.
Diagnostic and chromatography
products and systems
Japan

Tosoh AIA, Inc.
Diagnostic reagents
Japan

Tosoh Bioscience LLC
Packed columns for high-performance
liquid chromatography and
separation media
United States
www.separations.us.tosohbioscience.com

Tosoh Bioscience GmbH
Packed columns for high-performance
liquid chromatography and
separation media
Germany
www.separations.eu.tosohbioscience.com

Tosoh Bioscience, Inc.
Clinical diagnostic systems and reagents
United States
www.diagnostics.us.tosohbioscience.com

Tosoh Europe N.V.
Clinical diagnostic systems and reagents
Belgium
www.diagnostics.eu.tosohbioscience.com

Tosoh Bioscience SRL
Clinical diagnostic systems and reagents
Italy
www.diagnostics.eu.tosohbioscience.com

Tosoh Bioscience Ltd.
Clinical diagnostic systems and reagents
United Kingdom
www.diagnostics.eu.tosohbioscience.com

Tosoh Bioscience, A.G.
Clinical diagnostic systems and reagents
Switzerland
www.diagnostics.eu.tosohbioscience.com

Tosoh Bioscience Shanghai Co., Ltd
Clinical diagnostic systems and reagents,
packed columns for high-performance
liquid chromatography and separation
media
China
www.separations.asia.tosohbioscience.com

ECO-BUSINESS

Organo Corporation
Water treatment systems
Japan
www.organo.co.jp

Eco-Techno Corporation
Land survey, reclamation, and
technological consulting services
Japan
www.eco-techno.co.jp

REGIONAL HOLDING AND TRADING

Tosoh America, Inc.
US subsidiary holding company
and regional headquarters
United States
www.tosohamerica.com

Tosoh USA, Inc.
US sales, marketing, and
business development center
United States
www.tosohusa.com

Tosoh Specialty Chemicals USA, Inc.
US Sales
United States

Tosoh Europe B.V.
European sales, marketing, and
business development center
The Netherlands
www.tosoh-europe.com

Tosoh Asia Pte. Ltd.
Regional sales, marketing, and
business development center
Singapore
www.tosohasia.com

Tosoh (Shanghai) Co., Ltd.
China sales, marketing, and
business development center
China
www.tosohshanghai.com

Tosoh Nikkemi Corporation
Plastics and related materials
Japan
www.nikkemi.co.jp

OTHER

Tosoh Logistics Corporation
Transportation, warehousing, and
related services
Japan
www.tosoh-logi.co.jp

Tosoh Logistics Warehouse Co., Ltd.
Transportation, warehousing, and
related services
China
www.tosoh-logi.cn

Tohoku Denki Tekko Co., Ltd.
Instrumentation, plant
engineering, maintenance
Japan
www.dtekkco.co.jp

Yorin Construction Co., Ltd.
Engineering, construction
Japan
www.yorin.jp

Sanwa Construction Co., Ltd.
Construction
Japan

Izumi Sangyo Co., Ltd.
Civil engineering
Japan
www.izumi-ib.co.jp

Kasumi Kyodo Jigyo Co., Ltd.
Maintenance and control
of common facilities
Japan
www.izumi-ib.co.jp

Yokkaichi Oxyton Co., Ltd.
Industrial gases
Japan

**Tosoh Analysis and Research
Center Co., Ltd.**
Analytical services
Japan
www.tosoh-arc.co.jp

Tosoh Information Systems Corporation
Information technology services
Japan
www.tosis.co.jp

Tosoh General Service Co., Ltd.
Administration and security services
Japan

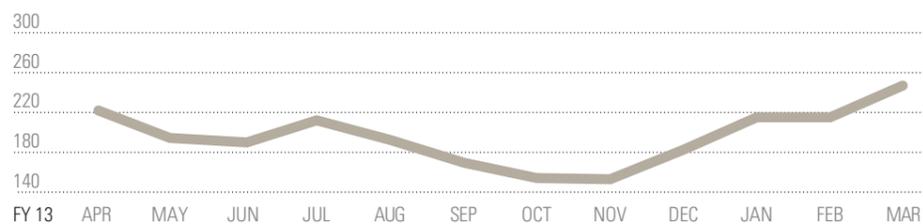
Tosoh's stock was at around 230 when fiscal year 2013 began in April 2012. The world economy at that time was showing scattered signs of vigor but was mostly unstable. A downward trend ensued when the Organization for Economic Cooperation and Development (OCED) stated in May 2012 that Europe's debt crisis was spiraling out of control and could seriously damage the global economy. Fear spread in Japan's markets as Spain's debt crisis and a surging yen combined to push the Nikkei down, which, in turn, lowered Tosoh's shares to the mid-180s in July 2012. Foreign investors kept the Japanese yen strong, as they considered it a safe haven for their cash.

In September 2012, Tosoh's share price continued its downward trend, into the mid-150s on September 12. The slump coincided with the negative impact on Japan's Nikkei average of investors cutting their exposure to exporters and riskier stocks as they awaited the outcome of a US Federal Reserve policy meeting and a ruling from Germany's constitutional court on the legality of the European bailout fund. When the German court ruled in favor of the European bailout fund and the Federal Reserve decided to launch a third round of quantitative easing, the Nikkei changed direction, hitting a two-week high in mid- to late September.

Throughout September, however, stocks for the most part struggled amid worries arising from a diplomatic dispute over islands claimed by each of Japan, China, and Taiwan. Tosoh's share price continued to fall in the first week of November, to around the 158 mark, before moving upward over the next two weeks. Finally, just as the stock was about to hit rock bottom a glimmer of light appeared on the horizon. A flurry of good news in Japan pushed Tosoh's share price to the mid-170s by November 27. That news included positive reports from Japanese exporters resulting from a surging euro and a deal on reducing Greece's debt.

In January 2013, the Nikkei and the Dow Jones Industrial Average started to move upward, and so did Tosoh's share price. February witnessed a steep fall in the yen sparked by anticipation that the Bank of Japan would announce fresh monetary easing. Toward the end of fiscal year 2013, Tosoh's share price peaked at 289 before moving down to 262 on March 31, 2013.

Tosoh Share Price (Yen)

**SHARE PRICE HIGH**

(Yen)

289

SHARE PRICE LOW

(Yen)

147

PERCENTAGE CHANGE

(Percentage)

49.1%

As of March 31, 2013

HEAD OFFICE

Tosoh Corporation
3-8-2, Shiba
Minato-ku, Tokyo 105-8623
Japan

For further information, please contact
International Corporate Development
Tel: +81 (3) 5427 5118
Fax: +81 (3) 5427 5198
info@tosoh.com www.tosoh.com

DATE OF INCORPORATION

February 11, 1935

PAID-IN CAPITAL

¥40.6 billion

NUMBER OF EMPLOYEES

11,268

COMMON STOCK

Authorized: 1,800,000,000 shares
Issued: 601,161,912 shares

NUMBER OF SHAREHOLDERS

41,619

STOCK EXCHANGE LISTING

Tokyo Stock Exchange
Ticker Symbol: JP: 4042

LARGEST SHAREHOLDERS

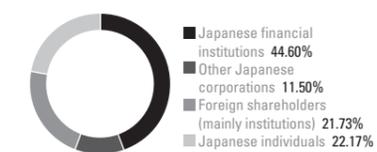
	Shares held (Thousands of shares)	Percent of total
Japan Trustee Services Bank, Ltd. (Trust Account)	28,890	4.81
The Master Trust Bank of Japan, Ltd. (Trust Account)	24,580	4.09
Mizuho Corporate Bank, Ltd.	21,757	3.62
Mitsui Sumitomo Insurance Co., Ltd.	20,699	3.45
Mitsui Sumitomo Trust and Banking Co., Ltd.	15,004	2.50
Nippon Life Insurance Company	14,851	2.47
The Norinchukin Bank	12,985	2.16
Aioi Nissay Dowa Insurance Co., Ltd.	11,020	1.83
Yamaguchi Bank Co., Ltd.	9,944	1.65
Tosoh Kyowa Association	9,826	1.63

TRANSFER AGENT FOR SHARES

The Chuo Mitsui Trust
and Banking Co., Ltd.
3-33-1, Shiba
Minato-ku, Tokyo 105-8574
Japan

INDEPENDENT AUDITORS

KPMG AZSA LLC

STOCK HELD BY INVESTOR TYPE



TOSOH

TOSOH CORPORATION

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