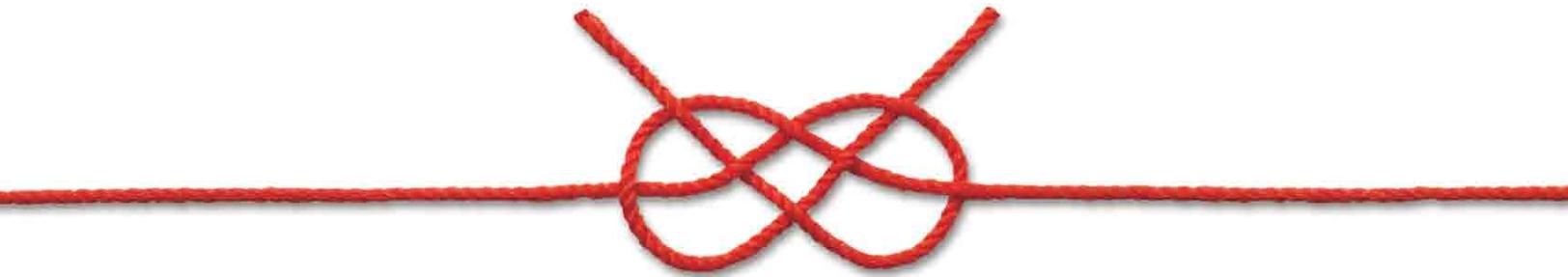




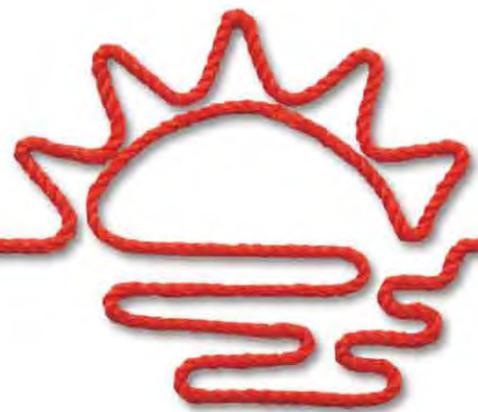
Seventy-Fifth Anniversary



## **ANNUAL REPORT 2010**

Tosoh Corporation and consolidated subsidiaries  
Fiscal year ended March 31, 2010

# **TOSOH CORPORATION**



# evolve

A red thread symbolizes the spirit of Tosoh at 75. We have steadily evolved over the decades into a resilient global enterprise that weaves itself into the fabric of modern life. The handcrafted motif on the cover is a traditional Japanese art form heralding illustrious occasions.

## Annual Report 2010

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### Since 1935, **Tosoh** has remained true to

**its values.** On the occasion of its 75th year in business, Tosoh celebrates the future while reaffirming its long-standing strategy of steadily evolving as a sustainable enterprise. We take pride in our place in the world. Tosoh is a global chemical company that supplies manufacturers with the materials they need to create the products that make modern life all that it is. And everything it can be. We hold fast to the values that have shaped our corporate destiny. Tosoh is a resilient company poised for a better future because of those values. Our values include *monozukuri*, “a craftsman-like approach to product detail and quality”; diversity, of people and places and products, as a means to mitigate risk and to tap potential through variety; and community, a spirit that binds Tosoh Group companies and their people together around the world.

#### 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.

**Specialty Group**

**Organic Chemicals**

- Methylene diphenyl diisocyanate
- Ethyleneamines
- Polyurethane catalysts (TEDA, Toyocat®)
- Bromine
- Hydrobromic acid
- Flame retardants (110R®, 120R®, Flamecut®)
- Chelating agents (TS-300, TX-10)
- Solvents
- High-purity ethylene dichloride

**Specialty Materials**

- Yttria-stabilized zirconia powders and compounds
- YTZ® grinding media
- Electrolytic manganese dioxide
- Zeolite molecular sieves (Zeolum®)
- Zeolite for catalysts (HSZ® series)

**Bioscience**

- Fully automated random-access enzyme immunoassay system (AIA®-2000)
- Random-access enzyme immunoassay system (AIA®-600 II, AIA®-360)
- Reagent system (AIA-Pack®, ST AIA-Pack®)
- Automated glycohemoglobin analyzers (HLC®-723G7, HLC®-723G8)
- Real-time fluorescence monitoring system (TRCRapid®-160)
- High-performance liquid chromatography columns (TSK-Gel®)
- Separation media for biopharmaceutical purification (Toyopearl®)
- High-performance gel permeation chromatography system (HLC-8320GPC EcoSEC®)

**Electronic Materials**

- Silica glass materials
- Fabricated quartzware
- Machined quartzware
- Thin film materials

**Service Group**

- Analytical services
- Administration
- Security
- Transportation
- Warehousing and related
- Information
- Instrumentation
- Plant engineering and maintenance services

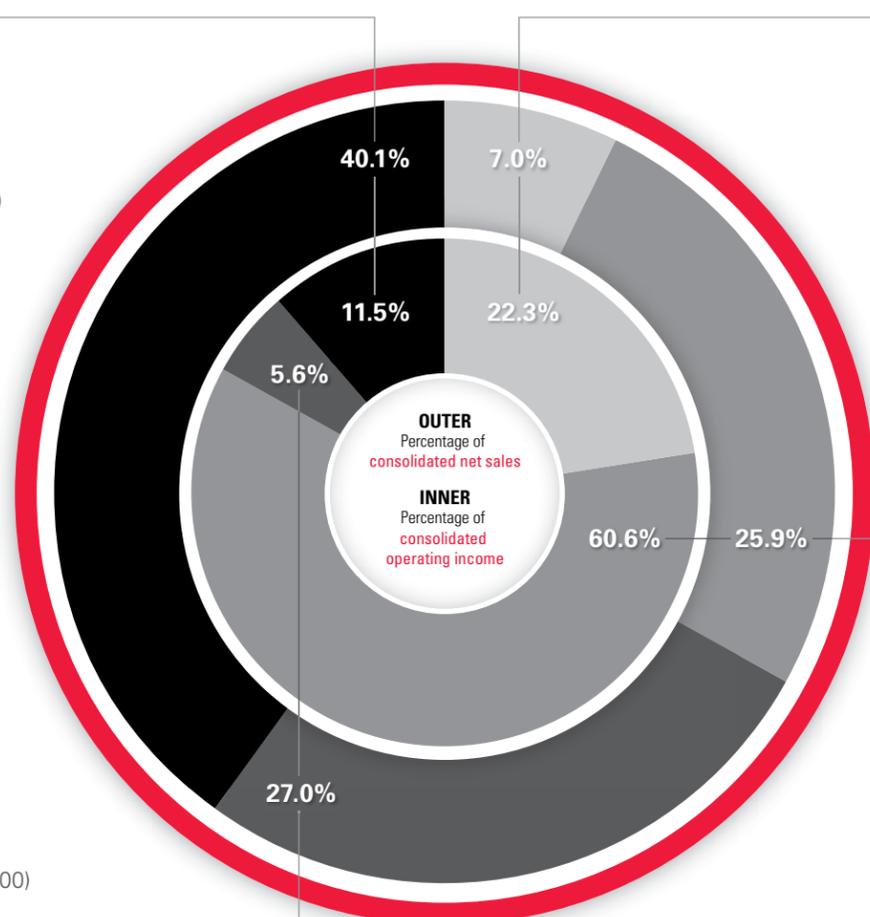
**Petrochemical Group**

**Olefins**

- Ethylene
- Propylene
- C4 fraction
- Tertiary butyl alcohol
- Cumene
- Aromatic compounds

**Polymers**

- High-density polyethylene (Nipolon Hard®)
- Low-density polyethylene (Nipolon®)
- Linear low-density polyethylene (Nipolon®-L, Nipolon®-Z, Lumitac®)
- Ethylene vinyl acetate copolymer (Nipoflex®)
- Adhesive polymer (Melthene® series)
- Polyvinyl chloride paste (Ryuron®)
- Polychloroprene rubber (Skyprene®)
- Chlorosulphonated polyethylene (Toso-CSM®)
- Alkylated chlorosulphonated polyethylene (extos®)
- Polyphenylene sulfide resins
- C9 hydrocarbon resins (Petcoal®)



**Basic Group**

**Chlor-alkali**

- Caustic soda
- Vinyl chloride monomer
- Polyvinyl chloride
- Calcium hypochlorite (Niclone®)
- Sodium bicarbonate

**Cement**

- Ordinary portland cement
- Portland fly ash cement
- Portland blast-furnace slag cement

**Who We Are**

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.

“Tosoh generated net sales of ¥628.7 billion (US\$6.8 billion at the year-end rate of ¥93.04 to the US dollar) in fiscal 2010, ended March 31, 2010.”

### Net Sales

(Millions of Yen)

**- 104,800**

FY 2010 628,706  
FY 2009 733,506  
FY 2008 827,395

### Operating Income (Loss)

(Millions of Yen)

**+ 33,361**

FY 2010 13,047  
FY 2009 (20,314)  
FY 2008 59,108

### Net Income (Loss)

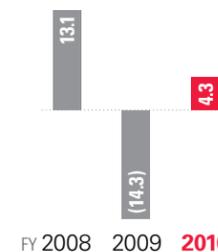
(Millions of Yen)

**+ 32,152**

FY 2010 6,890  
FY 2009 (25,262)  
FY 2008 25,183

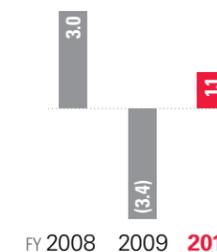
### Return on Equity

(%)



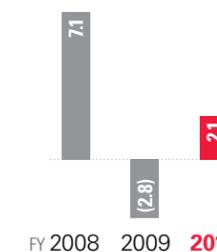
### Net Profit Margin

(%)



### Operating Profit Margin

(%)



### Free Cash Flow

(Billions of Yen)

**+ 90.3**

FY 2010 52.5  
FY 2009 (37.8)  
FY 2008 (4.3)

### Earnings (Loss) per Share

(Yen)

**+ 53.71**

FY 2010 11.51  
FY 2009 (42.20)  
FY 2008 42.05

### Dividends per Share

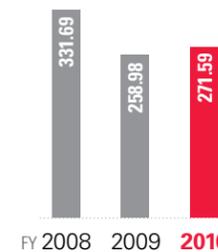
(Millions of Yen)

**0**

FY 2010 6  
FY 2009 6  
FY 2008 8

### Book Value per Share

(Yen)



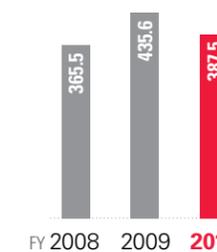
### R&D Expenditures

(Billions of Yen)



### Interest-Bearing Debt

(Billions of Yen)



## Eleven-Year Financial History

Fiscal Years*	2000	2001	2002	2003
Net sales	374,182	426,174	427,487	471,921
Operating income (loss)	27,330	27,565	15,631	28,048
Net income (loss)	6,019	9,392	459	4,809
Current assets	202,671	205,380	235,919	225,908
Fixed assets	325,318 <sup>†</sup>	329,225	336,227	319,789
Current liabilities	222,775	259,245	253,626	273,701
Long-term debt	187,627	154,035	176,562	125,797
Other long-term liabilities	18,894	24,860	30,881	33,032
Equity	91,886	91,195	90,557	92,795
Earnings (loss) per share	10.02	15.62	0.77	7.87
Book value per share	152.97	151.70	151.76	154.93
Dividends per share	5	5	5	5
Operating profit margin	7.3	6.5	3.7	5.9
Net profit margin	1.6	2.2	0.1	1.0
Return on equity	6.6	10.3	0.5	5.2
Equity ratio (percent)	17.4	17.1	15.8	17.0
Interest coverage ratio (times)	3.4	3.8	2.4	5.1
Fixed assets turnover	1.2	1.3	1.3	1.5
Inventory turnover	7.1	7.4	6.2	7.4
Collection period (days)	98	101	104	96

\*Fiscal years here and elsewhere in this report refer to years ended March 31.

Fiscal 2010 is the year from April 1, 2009, to March 31, 2010.

<sup>†</sup>Indicates a change in accounting treatment.

	2004	2005	2006	2007	2008	2009	2010
	Millions of Yen						
	484,389	588,332	648,810	781,347	827,395	733,506	<b>628,706</b>
	30,055	56,899	47,460	60,279	59,108	(20,314)	<b>13,047</b>
	7,297	29,533	27,533	28,488	25,183	(25,262)	<b>6,890</b>
	235,227	272,278	295,664	370,198	377,465	357,216	<b>354,719</b>
	313,986	330,931	341,813	418,320	439,529	405,580	<b>384,940</b>
	262,541	283,691	287,968	357,674	373,551	334,488	<b>342,302</b>
	140,419	137,740	133,722	169,965	170,010	212,194	<b>178,079</b>
	25,714	29,337	30,585	33,110	31,071	30,233	<b>28,380</b>
	99,238	127,993	159,112	184,974 <sup>†</sup>	198,607 <sup>†</sup>	155,013	<b>162,500</b>
	Yen						
	11.96	49.09	45.74	47.60	42.05	(42.20)	<b>11.51</b>
	165.67	213.79	265.75	308.81	331.69	258.98	<b>271.59</b>
	5	6	6	8	8	6	<b>6</b>
	Percent						
	6.2	9.7	7.3	7.7	7.1	(2.8)	<b>2.1</b>
	1.5	5.0	4.2	3.6	3.0	(3.4)	<b>1.1</b>
	7.6	26.0	19.2	16.6	13.1	(14.3)	<b>4.3</b>
	Percent/Times						
	18.1	21.2	25.0	23.5	24.3	(20.3)	<b>22.0</b>
	6.6	13.9	12.4	12.4	9.8	(2.8)	<b>2.1</b>
	Times						
	1.5	1.8	1.9	1.9	1.9	1.8	<b>1.6</b>
	7.0	7.1	7.1	6.8	6.4	6.3	<b>6.1</b>
	101	95	92	97	87	78	<b>99</b>



# opportunity

**At 75, we reflect on our legacy and look to the future with renewed enthusiasm and purpose.**

Over the decades, Tosoh frequently has weathered hardship beyond its control. That for us is simply the nature of business. Our operations were commandeered and our facilities confiscated during World War II. Our industry was rocked to its foundations by oil shocks in the 1970s. Our price competitiveness was undermined by the sudden appreciation of the yen in the 1980s. And most recently, our profitability has been placed under great strain by a global economic downturn. Yet, through it all Tosoh's fundamental strategy—to evolve steadily into a resilient company that can create opportunity amid challenging times—has remained sound.

## Tosoh Implements a Successful Recovery

Our efforts to quickly return to profitability met with success despite challenges in the second half of the fiscal year under review. That was when our performance slowed compared with projections because of market forces. Tosoh nonetheless ended the year well positioned for a recovery—albeit at a slower pace than desired.



Takashi Tsuchiya, Chairman & CEO, and Kenichi Udagawa, President

In fiscal 2010, which began on April 1, 2009, and ended on March 31, 2010, Tosoh continued to grapple with the aftershocks of the financial crisis that surfaced in 2008 and its spillover into the real economy. Our consolidated net sales declined 14.3% from a year earlier, to ¥628.7 billion (US\$6.8 billion). But our operating income rebounded from the previous year's loss to ¥13.0 billion (US\$140.2 million), and our net income made a similar recovery, from a net loss in fiscal 2009 to ¥6.9 billion (US\$74.1 million) in fiscal 2010.

### The Year in Review

Our goal during the period was to get back on track as quickly as possible. With markets and exchange rates in a constant state of flux, achieving that goal proved difficult. We have, however, achieved moderate success despite the bumps along the way. Our performance at year-end was not overly short of our initial forecasts, and that is commendable given the circumstances. The members of Tosoh's new management team spent their inaugural year dealing with some

of the worst economic conditions in a century while getting firmly into the driver's seat. Through it all, we are optimistic about the changes that we have been making at Tosoh.

After suffering our largest operating loss ever in the third quarter of fiscal 2009, we steadily narrowed the gap in successive quarters heading into the fiscal year in review, returning to profitability in the second quarter of fiscal 2010 and staying there for the rest of the fiscal year.

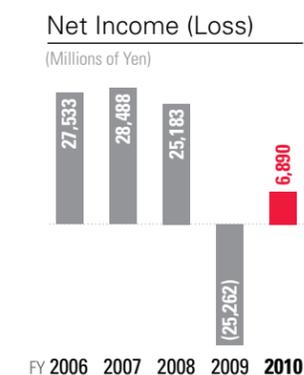
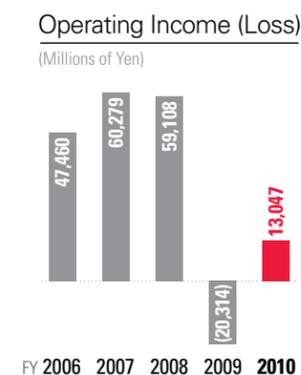
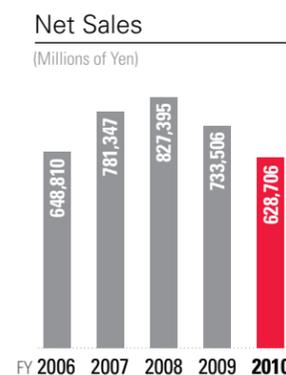
Our slower second-half performance owed itself to several factors. Raw materials costs in our chemicals and polymer segments rose sharply, and though we raised our product prices we were unable to keep pace with those increasing costs. In addition, many Tosoh Group companies failed to meet their earnings targets. Nippon Polyurethane Industry Co., Ltd., which posted sharply lower earnings in its methylene diphenyl diisocyanate (MDI) operations, was foremost among them.

Recent increases in MDI production capacity in Asia by Tosoh and its competitors led to oversupply in the region. The financial turmoil only exacerbated the situation, and MDI prices fell, particularly in China. This, in turn, caused business conditions to grow increasingly harsh, with the spreads between our MDI product prices and the cost of their main raw material, benzene, reaching the narrowest levels ever.

MDI is a core component of what we at Tosoh refer to as our vinyl isocyanate chain and, as such, is crucial to our future. Accordingly, we are focusing our management resources to deal on an emergency basis with MDI pricing and cost issues. Demand for MDI, meanwhile, is projected to rise, especially from such expanding Asian economies as China and India. This should rapidly close the demand-supply gap, relieve downward pressure on prices, and present sales opportunities. Tosoh anticipates exploiting its prominence in MDI to capture a solid share of the growing market for MDI in Asia.

*“ It seems fitting that Tosoh is undergoing critical challenges as it celebrates its 75th anniversary and a history of resilience and innovation. ”*

“Economic and market conditions continue to be difficult, but we are confident that the Tosoh Group will use its combination of specialty and commodity products to make further progress toward renewed profitability and growth in the fiscal year ahead.”



### Prospects for Fiscal 2011

Global markets continue to recover, and Asian markets are leading the way. Even Japan's gross domestic product is forecast to grow 2.6%, in fiscal 2011, the first positive growth in three years. But we at Tosoh have to take into account the impact on Japan's economy and on our operations of the new supply of petrochemical products flowing into the global market from the Middle East.

We've based our fiscal 2011 earnings forecasts on various assumptions. Among them is the assumption that the yen will average ¥90 to the US dollar and that the price of naphtha in Japan will average ¥50,000 per kiloliter. Overall, we estimate that our consolidated net sales will increase ¥92 billion, to ¥720 billion, and that our operating income margin will move up 2% over fiscal 2010's figure, to 3.6%.

In other words, we expect to maintain our recovery despite the continued harsh business climate, recording positive growth in sales and in profits. Greater sales volume, arising partly from increased capacity for high-demand products, will

drive our profit growth. The zirconia and high-silica zeolite plants completed in fiscal 2009 at our Yokkaichi Complex will begin to supply new customers. We also will begin the expanded production of ethyleneamines and chlorosulphonated polyethylene at our Nanyo Complex.

Although cautiously optimistic about the year ahead, we are keeping our guard up. We plan to hold our capital investment to approximately ¥25 billion, cutting back in almost all areas except safety and the environment. We will, though, make some selective capital investments to expand the sales of our bioscience and ceramics products and believe that these businesses have the potential to contribute to earnings in the short term.

### Current and Ongoing Issues

We are taking immediate steps to rebalance our role as a supplier of both specialty and commodity chemical products and to resume growing. Our primary concerns regarding the Tosoh Group overall are as follows:

#### Controlling greenhouse gas emissions

Japan joined many other nations in committing to reduce carbon dioxide emissions at the United Nations Climate Change Conference in Copenhagen in 2009. So changes to Japan's political leadership notwithstanding, we think it safe to assume that environmental taxes and emissions trading are on their way in Japan and elsewhere around the world. Their effect on the chemical industry will be significant, and Tosoh is developing action plans to stay ahead of the issues.

#### Commercializing proprietary products

We have several products in our development pipeline that have the potential to be profitable as soon as they are launched, even with small sales volumes. This is especially true of our high-efficiency electron hole transport materials for organic electroluminescent displays (OLEDs). The surging popularity of hybrid cars and of solar power likewise makes timely our research and development (R&D) in battery materials and solar cells.

#### Readying ourselves for a potential shakeout in the petrochemicals sector

Heightened competition in the global market for petrochemicals, driven by the full-scale operations of new petrochemical plants in the Middle East, has produced some industry mergers and business alliances in Japan. Tosoh is evaluating its options to ensure that the reorganization of the petrochemicals industry works to its advantage.

#### Ensuring safe and trouble-free operations and compliance

Safety comes first at Tosoh, and trouble-free operations are critical for profitability. We will maintain our high level of vigilance and our broad range of programs, campaigns, and projects—for smooth operations and for safety and with regard to compliance and our global commitment to sustainability. Our environmental focus involves reducing the carbon dioxide emissions from our production activities and throughout the lifecycles of our products.

#### Securing solid profits

In the short term, our greatest challenge is profitability. All levels of Tosoh management are proactively moving to meet performance targets. In particular, we will remain focused on keeping product prices in line with feedstock costs and will work to further reduce our fixed costs.

### Our 75th Anniversary

It seems fitting that Tosoh is undergoing critical challenges as it celebrates its 75th anniversary and a history of resilience and innovation. In the pages to follow, readers will find ample evidence of the company's capabilities and, indeed, of the essential role it plays in lives worldwide.

Tosoh's management team is making the hard decisions needed to ensure an organization capable of meeting the challenges ahead. Economic and market conditions continue to be difficult, but we are confident that the Tosoh Group will use its combination of specialty and commodity products to make further progress toward renewed profitability

and growth in the fiscal year ahead. In so doing, we seek to continue to earn the trust and support of our stakeholders.

Takashi Tsuchiya, Chairman & CEO

Kenichi Udagawa, President

## Maintaining a Strategic Edge

### Our Vinyl Isocyanate Chain

Japan-based synergies result in our international competitiveness

The integration of production processes is essential to Tosoh's cost competitiveness and competitive advantages overall. What Tosoh refers to as its vinyl isocyanate chain is central to the company's integrated production.

In 2008, Tosoh completed facilities that give it one of the largest integrated production capacities in Asia for vinyl products. Those facilities encompass electric power; electrolysis; ethylene dichloride (EDC); vinyl chloride monomer (VCM); polyvinyl chloride (PVC); and methylene diphenyl diisocyanate (MDI) plants. They constitute, moreover, Tosoh's vinyl-related manufacturing hub for Asia and the expanded version of the Tosoh vinyl chain that has provided reliable product supply for Asian customers. Over the last decade, vinyl-related operating income has averaged more than US\$50 million a year, despite the extraordinary global recession that began in 2008.

Tosoh Group companies in Japan and throughout Asia collaborate within Tosoh's vinyl isocyanate chain to maintain and to enhance the company's leadership in vinyl-related operations. This only heightens Tosoh's competitive advantage, granting it economy of scale as well as an integrated manufacturing infrastructure in Japan that includes efficient, in-house power generation.

Tosoh is exploiting its extensive, expanding, and efficient vinyl isocyanate chain operations to meet growth in demand for its vinyl-related products in Asia, Oceania, and beyond. VCM, for instance, is a growth business in Asia and especially in China whose needs we are fulfilling through our enlarged and strengthened operations. Demand likewise is growing steadily in Asia for PVC and caustic soda, again centered on China. So Tosoh continues to expand its PVC production capacity and is therefore well positioned to meet increasing demand for PVC.

Tosoh, in fact, boasts some of the largest production volumes of caustic soda, VCM, and PVC in Asia. Each year, we produce 1.37 million metric tons of caustic soda; 1.45 million metric tons of VCM; and 1.10 million metric tons of

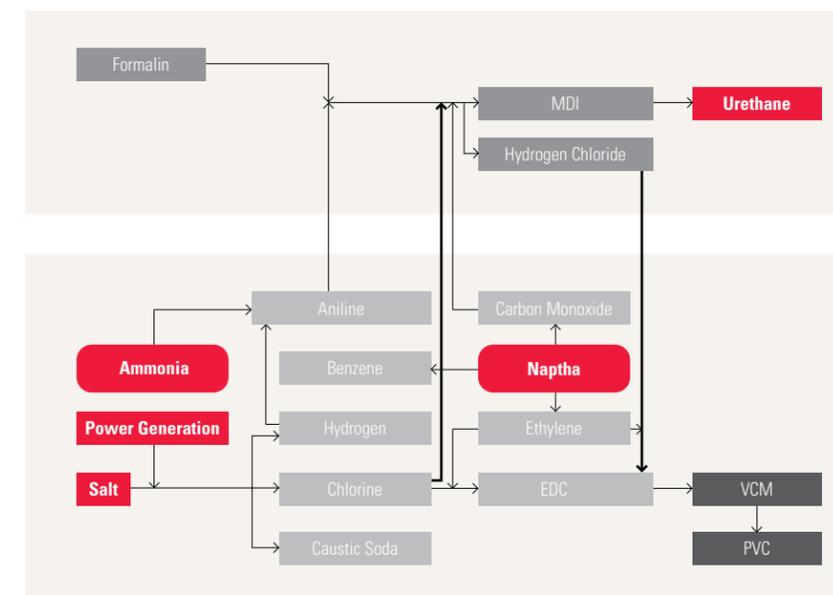
PVC, including 700,000 metric tons in Japan, 220,000 metric tons in China, 100,000 metric tons in the Philippines, and 86,000 metric tons in Indonesia. To meet China's burgeoning demand for PVC, Tosoh is thinking of doubling its PVC production capacity in that country.

Manufacturing MDI, however, represents the next step in the productivity and capacity evolution of our vinyl isocyanate chain. As a leading supplier of MDI, Tosoh expects to increase its position in the US\$7-8 billion global MDI market. Asia's market for MDI represents 40% of the global total and is growing at more than 10% annually. To meet that rising demand, Tosoh has doubled its MDI production capacity.

Tosoh's expanded MDI plant features 400,000 metric tons of capacity and full integration of its primary feedstock and utility needs. The enhanced capacity allows us to keep pace with rising calls for MDI in Asia and, through heightened running rates and a sales strategy that targets high-growth markets, to supply demand especially in China and in new markets elsewhere in Asia, including in India, and throughout the Middle East.

*“Tosoh's competitiveness is based on highly integrated commodity operations and on specialty product lines that serve global niche markets. These two strategic pillars keep Tosoh in the forefront of growing markets worldwide.”*

#### TOSOH FULLY INTEGRATED VINYL ISOCYANATE CHAIN



#### The Vinyl Isocyanate Chain's Chemical Manufacturing Processes

Collectively, the vinyl isocyanate chain yields an array of related chemicals. At the beginning of the vinyl chain, salt is electrolyzed to yield chlorine and caustic soda. Ethylene is then introduced to some of the chlorine, and the reaction produces ethylene dichloride (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 also 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.

*“Tosoh is exploiting its vinyl isocyanate chain operations to meet growth in demand for its vinyl-related products in Asia, Oceania, and beyond.”*

## Our Balanced Diversity

### Profitable global niche markets provide stability

The specialties side of our strategy focuses on technologically sophisticated, value-added products for high-technology industries, such as semiconductors, consumer electronics, pharmaceuticals, and health care. Developing and positioning ourselves with primarily proprietary technologies in global niche specialty markets enables us to hedge against the cyclical nature of our commodity markets.

Specialty products are an increasingly important component of sales and earnings growth at Tosoh. As such, Tosoh consolidates and realigns its group companies to accelerate their expansion into specialty items and to achieve efficiencies as their niche offerings mature into core product lines. While enhancing the individual strengths of group companies, Tosoh encourages their synergistic sharing of technology to support the development and manufacture of high-value-added products.

### INVESTMENT

We anticipate continuing growth in demand over the long term, and we have therefore bolstered the group's production capacity and technological capabilities through internal investment and through corporate acquisitions. Below is a summary of recent and ongoing investment activity.

High-silica zeolites	
Capacity expansion completed	March 2009
Zirconia	
Capacity expansion completed	March 2009
Bioscience immunoassay reagents	
Capacity increase completed	March 2010
Ethyleneamines (1)	
Capacity increase	From 53,000 metric tons/year to 79,000 metric tons/year
New capacity to go online	Spring 2010
Ethyleneamines (2)	
Capacity increase	From 79,000 metric tons/year to 89,000 metric tons/year
New capacity to go online	Spring 2012
Chlorosulphonated polyethylene (CSM)	
Capacity increase	From 4,500 metric tons/year to 8,500 metric tons/year
New capacity to go online	August 2010

Tosoh's Specialty Group has grown into a global business, including through carefully targeted acquisitions. R&D linked to market and customer needs results in products of sustained profitability. R&D investment brings products to commercialization, and products that achieve a substantial presence provide good return on capital spent to increase their production. Among these are zirconia, ethyleneamines, and zeolites, and we expect in the near future that MDI, which spans commodities and specialties, will join them. In fiscal 2011, Tosoh will further the output of its top-selling specialty items while aggressively moving products into and developing new markets.

### R&D yields advantages for the long term

Competitive advantage during the Industrial Revolution entailed producing more goods at lower cost. Competitive advantage today involves rapid innovation and quality over quantity.

Tosoh recognizes the importance of balancing maturing products with new technologies. So it focuses its R&D on cutting-edge electronic material, bioscience, and eco-products. The success of such products raises the company's competitiveness and adds value in markets worldwide. Tosoh's eco-products offer a cleaner, more energy-efficient world, and its bioscience products contribute to improved health care worldwide.

Among Tosoh's eco-products are technologies for capturing and channeling solar energy—a market that shows promise of significant growth. We specialize in thin film materials for solar cells and in highly conductive materials, such as aluminum-doped zinc oxide and molybdenum targets, that enhance the photovoltaic effect. Back shielding films in solar cells contain our ethylene vinyl acetate (EVA) copolymer, which remains elastic at low temperatures but resists flexing and environmental stress cracking.

Tosoh leads the world, meanwhile, in producing electrolytic manganese dioxide (EMD). EMD is used in primary batteries and can be adjusted for use in secondary batteries, such as lithium-ion cells. We also have developed second-generation battery materials that will accelerate the shift of hybrid cars from metal hydride to lithium-ion cells. Hybrid vehicles are a hot growth market, and Tosoh projects robust expansion for related products. Tosoh, at 75, remains dedicated to bolstering its competitive advantages for a better tomorrow.

*“Tosoh's eco-products contribute to a cleaner, more energy-efficient world, and its bioscience products contribute to improved health care worldwide.”*

*“Specialty products drive sales and earnings growth, while research into and the development of cutting-edge electronic material, bioscience, and eco-products bolsters competitiveness and adds value in markets worldwide.”*

The Tosoh **Specialty Group** exemplifies the company's hybrid approach to a sustainable enterprise.

The Specialty Group offers a diversified portfolio of bioscience, organic chemical, electronic material, and specialty material products and water treatment technologies. It supplies sophisticated, value-added products to a vast number of global clients in high-tech industries ranging from pharmaceuticals and health care to semiconductors, consumer electronics, and automobiles.

**value**

## Specialty Group

The Specialty Group achieves a strategic balance that Tosoh aims to attain companywide. High-value-added products in well-established and growing niche markets serve to hedge profitability against the cyclical nature of Tosoh's commodity operations.



Tosoh supplies materials for the next generation of clean energy sources.

*“The Specialty Group’s focus is twofold. It seeks return on capital through production capacity expansions for leading products. It also strives for synergies among Tosoh Group companies manufacturing products with common characteristics and customer bases.”*

### Globalizing Since the 1960s

The start of Tosoh's globalization in the 1960s occurred in tandem with the beginnings of its specialty product lineup and allowed the company to tap growing markets worldwide. The 1970s saw Tosoh establish operations overseas, whereas in the 1980s Tosoh engaged in mergers and acquisitions and equity participations, chiefly to increase the scope of its specialties business. In the 1990s, Tosoh invested heavily in commodities and in expanding further into Asia, all the while continuing to strengthen and expand its specialties.

Since 2000, we've seen some of our businesses come full circle. The decade to date, moreover, has been characterized by heightened investment in expanding our production capacities in electronics, specialty materials, bioscience, and organic chemical products and services. Tosoh remains as committed as ever to manufacturing specialty products in selected areas of strength and to serving its customers in the semiconductor, consumer electronics, pharmaceutical, bioscience, and health care industries.

### Organic Chemicals

#### From pharmaceuticals to specialty coatings

The Specialty Group's Organic Chemicals Division supplies a broad range of products for various applications, including in pharmaceuticals, agrochemicals, electronics, organometallic catalysts, urethane polymers, and specialty coatings. The division's ethyleneamines command the largest share of the Asian market, and its bromine, flame retardants, and industrial cleaning solvents hold a large share of Japan's market.

#### Ethyleneamines and their derivatives

Ethyleneamines and their derivatives, such as epoxy hardeners, wet-strength resins for paper, chelates, and pharmaceutical and agrochemical intermediates, have diverse applications. In Japan, Tosoh is the industry's leading supplier of heavy metal chelates, which are in demand for their environmental properties and their cost competitiveness.

Ethyleneamines are produced from ethylene dichloride (EDC), ammonia, and caustic soda. As Japan's largest producer of EDC and caustic soda,

Tosoh has become a leading supplier of ethyleneamines throughout Asia. Indeed, Tosoh's establishment in the Netherlands in 1976 of the joint venture company Delamine B.V. with Akzo Nobel makes the Tosoh Group one of the largest producers and sellers of ethyleneamines in the world. Tosoh boasts ethyleneamine sales offices in the United States, China, and Singapore.

The company, moreover, is meeting evolving demand for ethyleneamine derivatives with aggressive moves to develop markets for its polyurethane catalysts, heavy metal chelates, and new amine derivatives. Tosoh has also responded to growing concern over amine emissions from polyurethane foam. We are developing emission-free reactive amine catalysts to replace the amine-based catalysts used by the automobile and other industries.

Tosoh's strength in ethyleneamines stems from a combination of technological expertise and the cost competitiveness that it achieves by producing the raw materials for ethyleneamines. The ethyleneamines produced from those raw materials become, in turn, the raw materials in the manufacture of

other products, yielding a decided cost advantage for customers. Examples include the company's TEDA and Toyocat catalysts developed for use in polyurethane foam production.

#### **Bromine and brominated derivatives**

Tosoh is the only bromine producer in Japan and is strengthening its position in bromine and its related compounds throughout Asia. Among the company's wide range of bromine-related products are organic intermediates. Tosoh's bromine-based Flamecut flame retardants, meanwhile, transform regular plastics into heat- and flame-resistant plastics. Bromine also figures in the company's resource conservation activities. Tosoh has installed wastewater treatment facilities at its Nanyo Complex to recycle bromine.

#### **Eco-business**

Tosoh's establishment of the Eco-business Department within the Organic Chemicals Division has led to a lineup of environmentally sound products. The department produces chelating

agents and hydrocarbon-based cleaning solvents. Its solvents meet a variety of cleaning needs, and its chelating agents remove heavy metals from the environment. Chelating agent TS-300, for example, sharply reduces the volume of lead, cadmium, mercury, and copper generated during the removal of heavy metals from fly and combustion ash produced in the trash incineration process. Other of the Eco-business Department's agents are effective in removing volatile organic compounds (VOCs) from soil and wastewater.

#### **Methylene diphenyl diisocyanate**

Methylene diphenyl diisocyanate (MDI) is a raw material for polyurethane and other applications and a unique product for Tosoh. MDI has considerable significance for the company's commodity and specialty operations. It is a fine chemical with an array of uses and with marketing synergies for Tosoh's product lines, including organic synthesis, polyurethane catalysts, and specialty polymers. Tosoh's strategically increased equity stake

in a subsidiary that produces MDI is expanding the company's vinyl chain and providing potential for Specialty Group applications. Projections show that demand for MDI is growing at a 10% annual rate in Asia, and Tosoh has doubled its production capacity for this product accordingly.

Note: Effective June 29, 2010, Tosoh moved the MDI business conducted by that subsidiary, Nippon Polyurethane Industry Co., Ltd., from the Specialty Group to the Basic Chemicals Group.

## Specialty Materials

### Leveraging advanced technologies

Tosoh is a leading global supplier of advanced materials for consumer electronics and an array of industrial and high-tech products. The company enjoys an enviable reputation and substantial market share in the supply of zirconia powders, zeolites, and electrolytic manganese dioxide (EMD). And it is leveraging its advanced technologies to expand its sales in growth markets. Tosoh's strategies in this regard see it concentrate on markets where it has a clear competitive edge.

#### **Zeolites and ceramics**

Tosoh's synthetic zeolite products include its HSZ (high-silica zeolite) series. The HSZ series is a core catalyst product line that has helped Tosoh to expand its position in specialty materials in the global marketplace. The company's strategy for its zeolite lineup is to develop products that meet all of its customers' adsorption, separation, and catalyst requirements. It offers

high-quality zeolite grades differentiated from its competitors' products by their durability and heat resistance.

Tosoh is the leading global supplier of zirconia. This yttria-stabilized ceramic lacks the brittleness of conventional ceramics while featuring their attractive properties combined with metal-like qualities. Nicknamed "ceramic steel," zirconia has earned a place as a standard material for fiber-optic connectors. It also is finding new applications as a material for use in fuel cell components, automobile oxygen sensors, dental applications, and other products. By working closely with customers to develop applications for zirconia, Tosoh has expanded its lineup for this versatile ceramic to include powdered and even colored grades, compounds, and machined components.

*“Tosoh is the leading global supplier of zirconia, or “ceramic steel,” a standard ingredient of fiber-optic connectors.”*

Zirconia and high-silica zeolites are mainstays of the company's specialty product portfolio that serves worldwide demand for advanced materials for consumer electronics and wide-ranging industrial and high-tech products.

Note: Effective June 29, 2010, Tosoh combined its Specialty Materials and Electronic Materials divisions into the new Advanced Materials Division.

#### **Electrolytic manganese dioxide**

Tosoh is the world's largest producer of EMD for batteries. It seeks to supply EMD that sets the standard for primary batteries. The company furnishes customers with EMD from its plants in Japan and Greece and is pursuing technological exchanges to reinforce its EMD operations worldwide.

*“MDI is a raw material for polyurethane and other applications and a unique product underpinning Tosoh's commodity and specialty operations. It is a fine chemical with an array of uses and with synergies for a variety of product lines.”*

## Electronic Materials

### Next-generation product technologies

Tosoh's operations in quartz, fabricated quartzware, and sputtering targets enable the technologies of the future. And Tosoh is constantly developing new products and solutions to pass on to the world's high-tech, high-growth semiconductor, flat-panel display (FPD), photovoltaic (PV), and materials markets. Its integrated quartz, or silica glass, business facilitates Tosoh's supply of that material to the world's major semiconductor and optical markets. Its thin film materials business, centered on sputtering targets, includes an extensive list of materials used by and that Tosoh offers to semiconductor, FPD, and PV fabrication facilities.

Tosoh offers an extensive lineup of electronic materials for the development and manufacture of state-of-the-art products. The company's integrated supply chain of manufacturing and marketing bases in Japan, Taiwan, South Korea, Singapore, China, the

United States, and the countries of the European Union ensure that those materials meet the needs of and get to customers globally. Tosoh thus is well positioned to maintain and strengthen its ties with the world's leading semiconductor, FPD, and PV makers.

Tosoh is aggressively investing in high-growth electronic materials. It is developing technologies for such next-generation products as 22-nano-level IC chips and large FPDs. It also is focusing on products for space optics, energy conservation, and quartz microchips for biomedical applications that are unaffected by the semiconductor cycle. Investments for new products involve the development of an oversized quartz ingot for ultralarge, 10th-generation FPDs, the commercialization of chemical vapor deposition (CVD) products for semiconductor applications, and the development of cylindrical target materials for use in transparent electrodes for FPDs and in photovoltaic power generation systems that supply the rapidly expanding solar energy market.

“*Tosoh offers an extensive lineup of electronic materials for the development and manufacture of state-of-the-art products.*”

## Bioscience

### Aging society and growing demand

Tosoh is in the forefront of the global marketplace for high-performance liquid chromatography (HPLC) systems, analytical columns, and separation media. It also furnishes sophisticated diagnostic systems. The latter feature advanced immunoassay technologies that facilitate the quick and accurate diagnosis of life-threatening diseases, such as diabetes, certain cancers, and microbial infections.

Tosoh's HPLC and diagnostic systems integrate all their essential hardware and software and provide uncompromising value through global customer support and the ready availability of their consumable items. Moreover, the company has established a strong market position for its products through internal growth, acquisitions, and strategic alliances that have formed a global network and provided access to cutting-edge technologies in fields such as genetic diagnostics.

The company's bioscience network spans Japan, Europe, and the United States and is expanding into China and other Asian markets. That network serves four

“*Tosoh's bioscience network spans Japan, Europe, and the United States and is expanding into China and other Asian markets. That network serves four global markets: separation media, clinical HPLC systems, immunoassay systems, and molecular testing.*”

global markets: separation products, clinical HPLC systems, immunoassay systems, and molecular testing. Tosoh is one of the few companies developing, manufacturing, and selling instruments, analytical columns, separation media, and diagnostic reagents, plus providing customer support and maintenance services for these products.

Tosoh is Japan's market leader for TSK-Gel HPLC analytical columns, which have also earned an excellent reputation worldwide. The company has succeeded in building a position in the competitive domestic market for gel permeation chromatography (GPC) and for ion chromatography (IC) products and is extending its sales of GPC products overseas.

Strong global demand, meanwhile, has driven growth in the sales of Tosoh's Toyopearl separation media. That media finds widespread use among leading biopharmaceutical companies in the United States and Europe.

Tosoh's proprietary freeze-drying technology has enabled the production of sophisticated, fast, easy-to-use automated immunoassay (AIA) analyzers that are highly sensitive and precise.

Tosoh is a global leader in the automated glycated hemoglobin (GHb) analyzer market. Also, it is focusing on building a customer base for its latest HLC-723G8 GHb analyzer and its requisite consumables.

Tosoh also has entered the nucleic-acid amplification testing (NAT) market and launched a compact TRCRapid-160 real-time fluorescence monitoring system and transcription reverse transcription concerted reaction (TRC) reagent. In addition, the company has introduced a product that tests for food poisoning and a reagent to test for bacteria that cause tuberculosis.

Tosoh continues to develop improved models of its core GPC and IC systems. It also is promoting AIA sales through the addition of BNP (B-type natriuretic peptide) and other cardiac markers and of new testing categories and reagents with improved functionality and by introducing large, midsize, and compact analyzers. NAT work within Tosoh focuses on developing increasingly automated monitoring systems and on positioning the company as a leading authority in this new field.

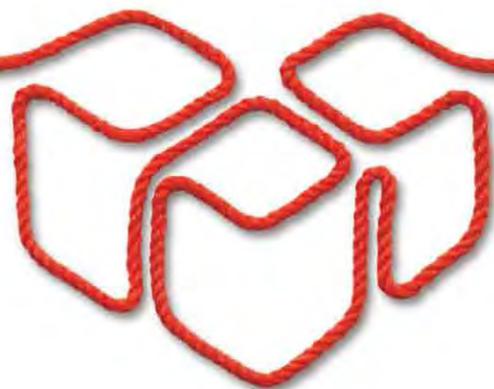
## Water Treatment

### Eco-friendly business

Tosoh subsidiary Organo Corporation is a leader in water treatment and pure generation technologies and systems for industry. Its water treatment systems for industry and for municipal waterworks and sewage wastewater and its soil remediation technologies are considered to be among the best globally. Water treatment is just one of the Tosoh eco-friendly businesses included in the Responsible Care report of this publication.

Note: Effective June 29, 2010, Tosoh moved the water treatment business of its subsidiary Organo Corporation to a newly established Engineering Group.

# essential

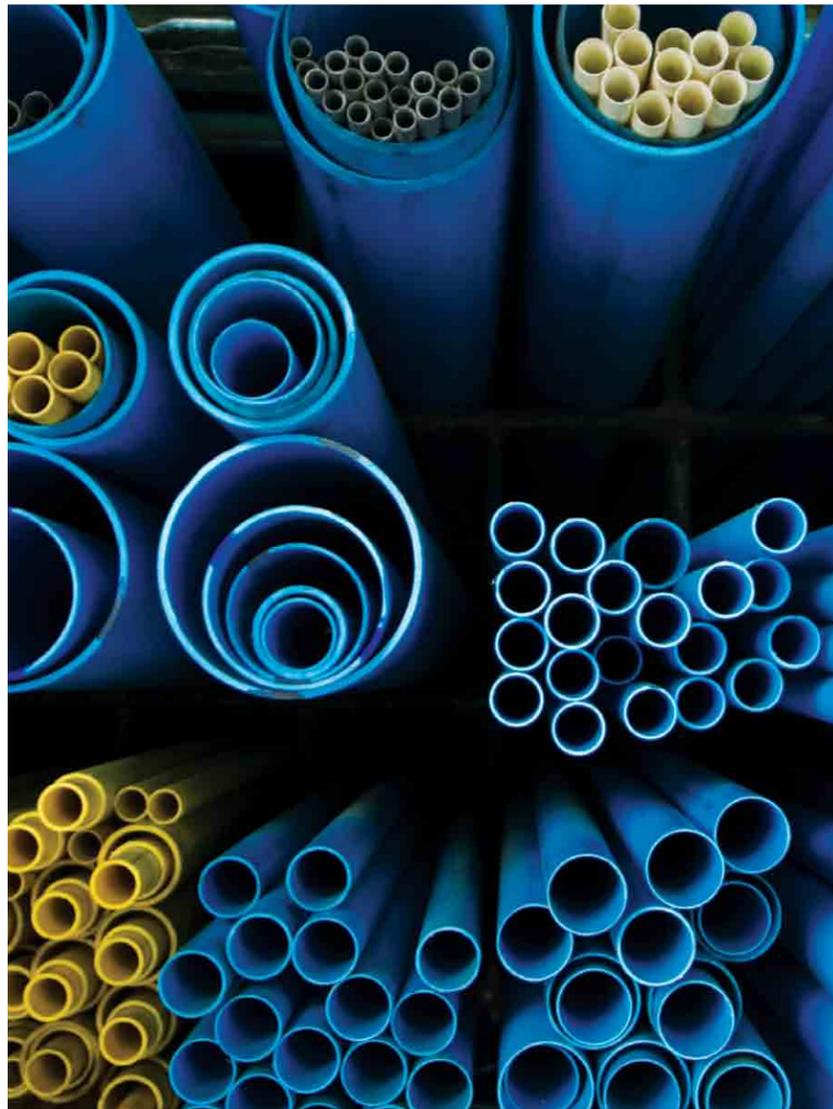


The Tosoh **Basic Group** supplies industry with raw materials for manufacturing life's essentials.

Tosoh's Basic Group makes possible the many products that people need for modern life. The group is home to some of the largest manufacturing capacities for chemical commodities in Asia, supplying manufacturers with raw materials used in the plastic, glass, aluminum, and much more that ends up in our homes and our cars and in so many things we use every day.

## Basic Group

The Basic Group's operations thrive on the synergies afforded by its vinyl isocyanate chain, which bolsters the company's competitiveness. Various Tosoh Group companies work together to make and to supply the Basic Group's products to growing markets in Asia and beyond.



Tosoh's long-lasting infrastructure materials find widespread use in the growth markets of Asia and elsewhere.

*“With the largest integrated facilities of their kind now in place, we are considering further capacity increases while bolstering the sales and management network that is vital to our increased presence in Asia.”*

### From Humble Beginnings to a Global Force

Tosoh traces its beginnings in 1935 to the operations that now make up the Basic Group. The construction of Japan's first factory for extracting bromine from seawater and an electrolysis plant to supply chlorine set the stage for the company's start. After World War II, Tosoh initiated cement operations to make efficient use of waste products from its ammonia-method soda and electrolysis production processes. Tosoh's Basic Group is home to the company's vinyl isocyanate chain, and the group's business centers on that chain's chlor-alkali inputs and outputs.

### Chlor-alkali

#### Salt to value-added chemicals

Tosoh manufactures five principal chlor-alkali products: caustic soda; vinyl chloride monomer (VCM); polyvinyl chloride (PVC) resins; calcium hypochlorite; and sodium bicarbonate. It electrolyzes salt to obtain chlorine and caustic soda and employs those basic chemicals in the manufacture of such value-added products as VCM, a raw material for polyvinyl chloride and ethyleneamines.

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 BiTAC ion-exchange membrane technology 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 that is a basic building block for PVC, used in pipes and other building materials. Tosoh accounts for more than 40% of Japan's VCM production and is the domestic leader in PVC resins, accounting for one-fourth of the national output.

Under the brand name Niclon, Tosoh also markets calcium hypochlorite in Japan. Niclon is used for sterilizing and disinfecting swimming pools and drinking water. It also finds use in sewage treatment systems. The company's sodium bicarbonate, meanwhile, is widely used in food products, animal feeds, bath additives, and pharmaceuticals.

### Cement

#### Key to recycling

Cement is the basic ingredient in concrete, and Tosoh makes three types of cement: ordinary portland cement, portland fly ash cement, and portland blast-furnace slag cement. The company's cement operations center on its cement plant at the Nanyo Complex and on its sale of all of the cement produced there to Taiheiyo Cement Corporation, Japan's largest producer of cement.

At Tosoh, coal ash, a by-product of electrical power generation, and slag, emitted by blast furnaces, are commonly added to the cement mixture to enhance certain of its properties, such as strength and water resistance. Cement production, therefore, helps the company process waste and by-products from other operations, making it a key link in Tosoh's overall value chain.



The Tosoh **Petrochemical Group** continuously transforms itself to remain competitive.

# transform

The Petrochemical Group stays globally competitive by reducing its production costs and supplying products of ever-higher value. Adjusting its facilities to use diverse feedstock lowers expenses and mitigates the risk of price fluctuations. High-performance laminates for photovoltaic cells and high-in-demand specialty items augment the Petrochemical Group's products used in medicines, clothing, television and radio components, automobile parts, building materials, food packaging, paints, and more.

## Petrochemical Group

The Petrochemical Group is central to Tosoh's competitiveness because it supplies a large proportion of the ethylene Tosoh requires for its vinyl isocyanate chain and polyethylene operations. An in-house annual ethylene production capacity of approximately 500,000 metric tons supplies roughly half of Tosoh's yearly demand.



Tosoh provides stronger-than-steel superplastics for motor vehicles and adhesives for modern buildings.

*“ We are transforming operations from commodity plastics to a focus on value-added products for high-growth industries and niche markets, such as information technology, solar energy, and medicine. ”*

### Diversifying into Petrochemicals

Although Tosoh began diversifying into petrochemicals in the late 1950s, its first big move in this area came in 1964. That was when one of its joint ventures began producing EDC, an important raw material in the production of VCM. Today, the company's Petrochemical Group accounts for around one-fourth of Tosoh's net sales and for more than half of its operating profit.

### Olefins

#### Chemical building blocks

Olefins are principal petrochemical building blocks. They make the development of chemical products virtually unlimited, and this includes everything from automotive additives to flavors and fragrances. Tosoh's production of olefins has made it an integrated manufacturer of hydrocarbon-based products and their derivatives, including ethylene, propylene, and cumene.

Ethylene, an integral part of the company's vinyl isocyanate chain, is used in the polyethylene products

manufactured by Tosoh. The company produces in-house approximately half of its ethylene requirements. The remainder is provided through third-party supply, creating cost-competitive flexibility in Tosoh's feedstock strategy.

In addition to its ethylene production, Tosoh manufactures propylene, which is essential to the production of polypropylene, and cumene, which is used in phenol, a key ingredient for the manufacture of phenolic resins, polycarbonate resins, and epoxy resins. Olefin operations at Tosoh also include benzene, a raw material for the aniline used in the Specialty Group's MDI operations to manufacture polyurethane.

In recent years, Tosoh has implemented a feedstock diversification strategy to offset increases in naphtha prices. The company's strategies for reducing production costs include employing heavier naphtha grades, improving the recovery efficiency for spent C<sub>4</sub> and C<sub>5</sub> fractions, and shifting to butane and propane to enhance the flexibility of its feedstock selection.

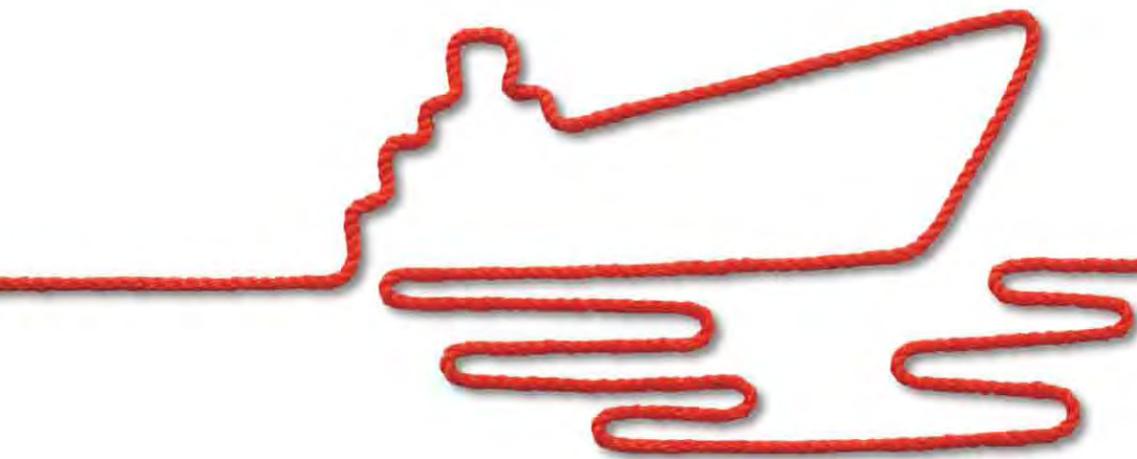
### Polymers

#### From food packaging to fishing nets

Tosoh's polymer products are used in a wide variety of industries. They are found in everything from food packaging to agriculture, engineering, and distribution. Tosoh manufactures polyethylene products, such as 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.

Tosoh then supplies its diverse polyethylene and rubber products for use in industrial and consumer product applications, adapting product specifications to meet customer needs. For example, EVA is used in shoe soles, LDPE goes into heavy-duty bags and agricultural film, and HDPE is found in injection moldings and fishing net filament.

A highlight of Tosoh's polymer lineup is chlorosulphonated polyethylene (CSM) rubber. CSM is in short supply worldwide, and Tosoh, as the global leader in CSM production, is increasing capacity.



# perform

The Tosoh **Service Group** supports the company and its customers.

A business's ability to perform at peak, including ensuring timely delivery and cost advantage, requires myriad support services. Tosoh's Service Group provides the essentials—from the transport of goods to the sophisticated analysis of organic and inorganic chemicals, polymers, and electronic materials—to the Specialty, Basic, and Petrochemical groups and to its external clients. The group is on call to handle facility engineering, construction, maintenance, expansion, upgrading and administrative services, personnel training, information technology (IT) support, and more.

## Service Group

Tosoh has centralized all of its support operations in the Service Group and encourages the evolution of each service from a cost center to a profit center. The group's performance speaks to the effectiveness of this approach.



Tosoh has constructed the largest chlor-alkali manufacturing and supply hub of its kind in Asia.

*“The Service Group is responsible for ensuring that many of the systems and projects vital to success are up and running smoothly, be they departmental IT networks, plant construction solutions, or international shipping schedules.”*

### Leveraging Integrated Expertise

The Service Group originated with trading and construction-related companies. Over the years, it has evolved to play a main role in supporting all of Tosoh's operations.

### Cost-Effective Performance

In April 2000, Tosoh spun off its information processing, analytical chemistry, and administrative operations into separate companies within the Service Group. This move was designed to improve Tosoh's consolidated performance and to enable the service-related companies to compete head to head with external suppliers by setting prices according to market rates. Nowadays, the Service Group handles logistics, construction, engineering support, and related services. In Japan, the group also offers financial services.

### Chemical analysis

Chemical analysis operations through the Service Group provide Tosoh Group companies worldwide with a range

of sophisticated services specializing in organic, inorganic, and polymer chemistry and in electronic materials. The information gained helps Tosoh to develop products, including improving its product applications.

### Information systems

In-house operations develop and maintain IT solutions across the Tosoh Group and at client companies. The Service Group's information services function maintains more than 300 servers and nearly 7,000 personal computers and services nearly 200 networks across 47 companies, spanning administrative and factory operation systems. The group also has developed and introduced a new enterprise resource planning system that allows management to assess the performance of Tosoh Group members quickly and easily.

### HR and general administration

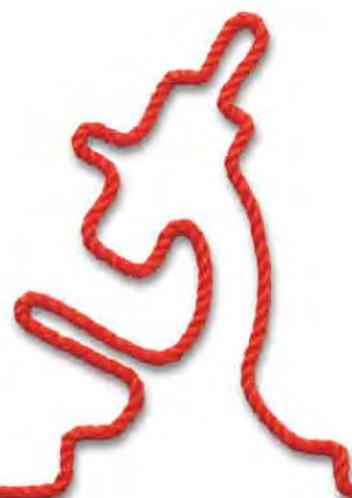
Administrative functions handled by the Service Group include such human resources support services as personnel management; employee benefit administration; and human resource training, with a particular focus on developing social services that support employees.

### Logistics

The Service Group's logistics operations are responsible for ensuring that supplies and products reach their destinations intact and on time. Maintaining transportation equipment, optimizing shipping schedules, and facilitating communications with bulk terminals and internal customers are a crucial part of these activities. Thanks in part to this support, Tosoh has received ISO 9001 certification for the quality control systems at its 13 sites in Japan. The Service Group now has commenced logistics operations in China to bolster Tosoh's growing network there and elsewhere in Asia.

### Plant services

Plant service operations through the Service Group provide engineering support for factory construction and maintenance, which goes to the heart of Tosoh's operations. Expertise in plant services spans the construction, management, and maintenance of manufacturing facilities. These services have become especially crucial in light of the rapid expansion of Tosoh's vinyl isocyanate chain.



Tosoh's research and development facilities are **strategically integrated** into the company's operations.

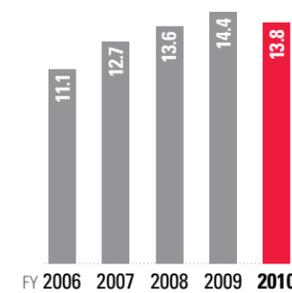
# purpose

Tosoh's emphasis on strong positions in niche markets for leading-edge technologies motivates its team of researchers to work with enthusiasm and purpose. Researchers engage with people in Tosoh's business groups and divisions and are rotated between R&D facilities and business offices to foster collaboration. All of our R&D facilities concentrate on breakthroughs in our major businesses, while one facility has as its purpose the evolution of scaleable production and engineering technologies. Combined, our R&D structure is a strategic force in creating new business opportunities.

## Research and Development

### R&D Expenditures

(Billions of Yen)



“Through R&D, the Tosoh Group strengthens its core businesses and enhances its innovative prowess.”

### Our R&D Commitment

A commitment to developing and improving technologies drives continuing advances in Tosoh's products and production processes. Our R&D expenditures in fiscal 2010 amounted to ¥13.8 billion (US\$149 million), and our R&D organization employed about 900 people.

Through R&D, the Tosoh Group strengthens its core businesses and enhances its ability to generate tomorrow's products today. The company combines its own R&D programs with joint research at external research facilities, including at universities and other educational institutions and at public research laboratories. Internally, as well, collaboration maximizes organizational resources and generates synergies. Our research staff works closely with our business groups and divisions, and the flow of personnel between our research facilities and our operations promotes closer cooperation and idea sharing.

We have established committees to plan the commercialization of research themes. These committees are comprised of representatives from our

business units, laboratories, and strategy divisions. Together, the individuals on the committees determine the most promising strategies for Tosoh's businesses while considering the Tosoh Group's social responsibilities and environmental policies. All committee decisions are strictly focused on applying the annual R&D budget efficiently and effectively to take advantage of real-world opportunities.

### Organizational Structure

Six facilities in Japan drive our R&D activities: 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. Organo's R&D Center and NPU's Central Research Laboratory likewise underpin our specialty operations. Our Technology Center, meanwhile, contributes engineering expertise to transform R&D ideas into production technologies and is responsible for designing production facilities for those technologies.

Complementing the six facilities that are the mainstays of R&D at Tosoh are specialized development and technology teams and departments for bioscience-related products and other operations in the Specialty Group. Technical representatives at our operations in North America, Europe, China, and Southeast Asia also bolster our R&D.

### R&D Emphases by Product Group

#### Specialty Group

**R&D expenditures in fiscal 2010:**  
**¥9.5 billion (US\$102.3 million)**

**Electronics:** silica glass, materials for organic light-emitting diodes, chemical vapor deposition and atomic layer deposition precursors for semiconductor devices, transparent conductive materials

**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:** zeolites for automotive catalytic converters, chelating agents for removing heavy metals from water, materials for removing pollutants from soil

**Tosoh's functional materials R&D has implications for everything from electronics and information technology to medical and environmental applications.**

R&D supports Tosoh's development of electronic materials for photovoltaic cells and other new uses. Tosoh is, for example, expanding its share of the market for cylindrical indium tin oxide (ITO) materials, which are used as sputtering targets in the production of photovoltaic cells. In addition, the company is preparing to introduce new products to the market in chemical vapor deposition (CVD) for semiconductors by as early as 2011.

Tosoh also is contributing to the evolution of the organic light-emitting diode (OLED) displays to which the world is rapidly shifting. A patented Tosoh-developed technology produces tertiary aryl amines using Pd-alkylphosphine catalysts that we have deployed in achieving groundbreaking high-efficiency hole transport materials. These materials are for low molecular weight organic transistor materials. Flat-panel displays also promise to remain a strong growth market for companies that remain in the technological forefront.

Controlling infectious diseases in developing countries, meanwhile, and aging-related diseases in developed countries is critical. Tosoh, therefore,

must continue to design accurate and yet simple medical diagnostic systems. The Tokyo Research Center designs diagnostic and particularly genetic testing tools based on genetic analysis and genetic engineering technologies. And overall our R&D people apply feedback from the medical personnel who use our testing tools to produce diagnostic systems and their consumables of heightened efficiency, speed, and yield.

In line with Tosoh's dedication to a sustainable future, its R&D personnel also are working on solutions in energy and environmental conservation. They are attempting to reduce Tosoh's consumption of energy by developing materials that improve the performance of primary batteries. They continue, too, to develop eco-products that improve our heavy metal chelating and soil-remediation agents.

**Basic Group**

**R&D expenditures in fiscal 2010:**  
**¥1.6 billion (US\$16.8 million)**

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

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

The n-BiTAC bipolar ion-exchange membrane electrolyzer cells from Tosoh serve as the first step in the integrated operations of the company's vinyl isocyanate chain. They are the best of their kind in electrical efficiency, at eight kiloamperes per square meter, and support a 5% reduction in power consumption compared with conventional cells. Tosoh R&D, meanwhile, continues to develop and test cathodes that likewise conserve power in the vinyl isocyanate chain's electrolysis of salt.

**Petrochemical Group**

**R&D expenditures in fiscal 2010:**  
**¥2.7 billion (US\$29.4 million)**

**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 and quality improvements in production processes, increased transparency in film

**R&D in petrochemicals at Tosoh focuses on improving and developing polymers and related technologies.**

Our development and improvement of commodity polyethylenes—including better laminate, masking, and medical grades—for a broadening array of applications contributes to our sales of petrochemicals. Tosoh's ethylene vinyl acetate (EVA) sealing film for photovoltaic cells shows promise for this growing market.

Our development of polyethylenes with high melting point elasticity is increasing the use of high-density grades of polyethylenes by some customers.

But Tosoh also continues to aggressively develop low-density polyethylenes. In addition, we are devising innovative polyethylenes that are a blend of rubber and other resins, including petroleum resins, and our adhesive polyolefin Melthene. We have also partnered with another company to develop markets for our polyphenylene sulfide products that adhere to metal surfaces.

Tosoh's development of nonyellowing chloroprene rubber distinguishes it from its rival producers within the rapidly recovering Asian market. Its ongoing development of ever-better chloroprene rubber grades focuses on latex, sulfur-modified, and no-stain molds.

**Bringing New Products to the Marketplace****High-efficiency electron transport materials set for commercialization**

High-efficiency electron transport materials for OLED displays exemplify a product taken by Tosoh from R&D to commercialization. This new Tosoh technology offers the advantages of long life and low operating voltage and will serve the growing OLED market.

Tosoh is now set to commercialize the materials that it has developed for OLEDs. The electroluminescent materials market, which includes the layers in the OLED, is projected to be worth about US\$200 million. Tosoh is targeting a 10% market share in the medium term and aims to grow the business to US\$20 million during the next three to five years.

**Starting full-scale commercialization of ion-exchange resins for electronic material purification**

Advances in electronic technologies have raised the required purity of water for cleaning semiconductors, liquid crystal panels, and many other electronic components to the level of super-ultrapurity. In fiscal 2011, Tosoh subsidiary Organo Corporation will start the full-scale commercialization of two series of ion-exchange resins that it has developed to provide super-ultrapure water for electronic material purification. Organo has already begun providing some of its two series of ion-exchange resins for application in the purification processes for solvents and polymers and as proprietary purification system and analysis technologies in the production of electronic materials.

The continued miniaturization of semiconductors has resulted in expanding demand for such resins, which are used chiefly to remove the ionic substances contained in fluid, and annual sales have reached several hundred million yen

(several million US dollars). Organo aims to double its sales of ion-exchange resins in three years. To achieve this aim, Organo will offer its ion-exchange resins as a comprehensive service package for electronic material purification that provides analysis, purification systems, and ultrapure water production. The package will handle each stage of development, including up to mass production for next-generation semiconductors.

*“Tosoh's high-efficiency electron transport materials for organic light-emitting diode displays exemplify a product taken from R&D to commercialization. OLED technology offers long life and low operating voltage.”*



**Tosoh is a multinational organization that benefits from the brightest minds and the best people.**

The Tosoh Group is a community of companies built up worldwide over the past five decades. Comprising enterprises with strengths in bioscience, basic chemicals, organic chemicals, specialty materials, electronic materials, and more, the company's global operations are increasingly important to competitiveness and profitability. Central to that competitiveness is a multiethnic, multinational workforce that brings fresh ideas and expanded capabilities to the Tosoh brand.

**community**



## Community of Companies

Committed to people as the source of its vitality, Tosoh is proud of the multiethnic, multicultural community it has become at 75. Our diversity brings fresh ideas and creativity to all aspects of our business. As we continue to expand globally, our focus remains on creating a corporate culture where people can realize their potential and be a part of the local community.

### North America

- Tosoh America, Inc.
- Tosoh USA, Inc.
- □ Tosoh SMD, Inc.
- Tosoh Bioscience LLC
- Tosoh SGM USA, Inc.
- Tosoh Specialty Chemicals USA, Inc.
- □ Tosoh Quartz, Inc.
- Tosoh Bioscience, Inc.

### Europe

- □ Tosoh Europe N.V.
- Tosoh Bioscience GmbH
- □ Tosoh Bioscience Ltd.
- Tosoh Bioscience, A.G.
- □ Tosoh Bioscience S.R.L.
- □ Tosoh Quartz, Inc.
- Tosoh Europe B.V.
- □ Delamine B.V.
- □ Tosoh Hellas A.I.C.

### Asia

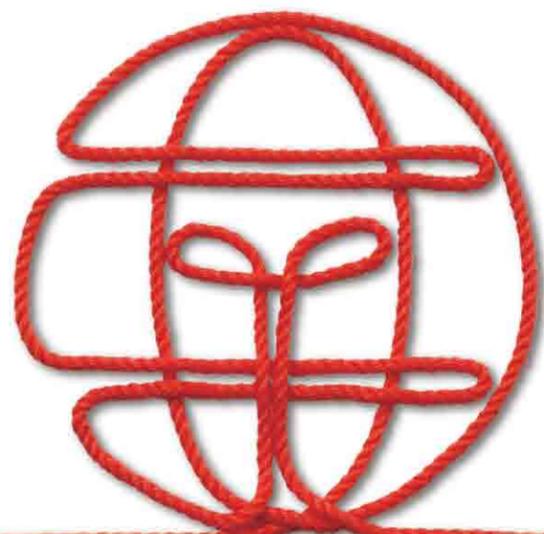
- Tosoh (Shanghai) Co., Ltd.
- Nippon Polyurethane (Shanghai) Co., Ltd.
- Organo (Suzhou) Water Treatment Co., Ltd.
- Nippon Polyurethane (Ruian) Co., Ltd.
- □ Tosoh (Guangzhou) Chemical Industries, Inc.
- □ Tosoh Logistics Warehouse Co., Ltd.
- □ Tosoh SMD Korea, Ltd.
- Tosoh SMD Taiwan, Ltd.
- □ Tosoh Quartz Co., Ltd.
- □ Organo Technology Co., Ltd.
- □ Tosoh Polyvin Corporation
- □ Mabuhay Vinyl Corporation
- □ Philippine Resins Industries, Inc.
- □ Organo (Asia) Sdn. Bhd.
- Tosoh Asia Pte. Ltd.
- □ P.T. Standard Toyo Polymer

### Japan

- + Headquarters
- □ Nanyo Complex
- □ Yokkaichi Complex
- Yamaguchi Regional Office
- Fukuoka Regional Office
- Sendai Regional Office
- Yamagata Office
- Nagoya Regional Office
- Osaka Regional Office
- □ Nanyo Research Laboratory
- □ Technology Center
- □ Yokkaichi Research Laboratory
- □ Tokyo Research Center



The Tosoh Group consists of 132 companies: the parent company, 111 subsidiaries, and 20 affiliates.



# proactive

## Responsible Care Report 2010

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**Tosoh fulfills its obligations as a **responsible company** while providing the means for customers to do so too.**

Tosoh's improvement in performance related to the environment, safety, and health is based on its participation in Responsible Care, the global chemical industry's global voluntary initiative. Tosoh has been proactively involved since 1995. It is a founding member of the Japan Responsible Care Council and a provider of eco-products and technologies that it and other companies use to fulfill environmental goals. Participation in Responsible Care strengthens Tosoh's dedication to improving the quality of life, through environmental preservation, to ensuring the safety and health of employees and of society at large, and to fostering dialogue with the community.

The Responsible Care report for 2010 covers activities for fiscal 2010, the period from April 1, 2009, to March 31, 2010.

## Responsible Care Activities

*“Over our 75 years in business, we have learned that sustainability is mission critical and that environmentally responsible business practices plus quality eco-products enhance profitability.”*

### Overview

Tosoh supports the aims of the global chemical industry in its quest for uniform Responsible Care systems. We have developed a corporate culture that encourages environment-related innovations that bode well for the business operations of our group and of other companies.

#### Environmental preservation

Our efforts on behalf of the environment focus on reducing our per unit energy consumption and our quantity of industrial waste disposal against 1991 benchmarks. Equally vital are our efforts to lower our discharge of materials designated under Japan's Pollutant Release and Transfer Register (PRTR) Law against 1996 levels.

Compared with the fiscal 1991 level, our goal is to lower our per unit energy consumption 20% by fiscal year 2011, and in fiscal 2010 we achieved a 13.5% improvement. We also have targeted a more than 89% reduction from fiscal 1991 in the quantity of our industrial waste, to under 1,500 metric tons, by fiscal 2011. In the year under review, we registered an 87%, or 1,800-metric-ton improvement.

The 83%, or 470-metric-ton, drop that we achieved in our discharge of materials cited under Japan's PRTR Law was just shy of our aim of a more than 87% reduction from fiscal 1996, to less than 360 metric tons by fiscal 2010. For fiscal 2013, we now target a reduction above 88% from fiscal 1996 levels, which represents less than 330 metric tons.

#### Safety and disaster prevention

Preventing accidents is a pillar of Responsible Care. In fiscal 2010, the parent company registered two accidents and one lost time incident. Tosoh Group companies registered two accidents and five lost time incidents, and Tosoh affiliates registered one lost time incident.

Voluntary safety initiatives included the Risk and Crisis Management (RCM) Project spearheaded by the Nanyo Complex.

Strengthening the safety assurance systems in our factories in compliance with legal regulations is a priority at Tosoh. The Nanyo Complex renewed its certifications to carry out safety inspections under the High-Pressure Gas Safety Act in September 2009 and to conduct in-operation inspection cycles of its boilers

and pressure vessels in March 2010. The Yokkaichi Complex will renew similar certifications in November 2011 and is, in the meantime, raising the effectiveness of its safety management system through a plan-do-check-act (PDCA) cycle. A uniform plant safety evaluation system was implemented in all factory departments.

Employee health and welfare also was a focus at Tosoh in fiscal 2010. Worldwide concern with new strains of influenza prompted us to introduce measures to combat the looming threat to our employees.

#### Chemical and product safety

Enhancing chemical and product safety is a foremost aim at Tosoh. In this regard, we generate and manage material safety data sheets (MSDS) in compliance with the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

In fiscal 2010, Tosoh completed MSDS for Taiwan and the Republic of Korea.

Tosoh similarly undertakes scientific risk assessment and reporting in compliance with the High Production Volume (HPV) Chemicals initiative. That program is promoted by the

Organization for Economic Cooperation and Development and endorsed by the International Council of Chemical Associations (ICCA).

We have already submitted the final version of a report on safety-related information concerning 1-bromopropane, a substance registered under the Japan Challenge Program, a government-industry collaboration.

We also are registering substances designated by Europe's Registration, Evaluation, and Authorization of Chemicals, or REACH, regulation. And we expect to meet the REACH registration first-phase deadline of November 30, 2010.

#### Quality assurance

In fiscal 2010, we thoroughly examined our quality management processes and, in turn, strengthened our oversight of clinical research through our in-house Ethics Committee. We intend now, through further inspection, to enhance our quality management system specifically for specialty products. We likewise plan to strengthen our quality management in the production and sale of pharmaceuticals and medical equipment.

#### Logistical safety

Securely transporting and storing chemical products is of enormous concern to Tosoh. So we are constantly reviewing and researching containerization to prevent problems. As a result, in fiscal 2010 we introduced new containers with external cladding for the bottles that we use to transport bromine. We also switched to tanker trucks.

#### Dialogue with the public

Communicating with the communities where we live and work, in Japan and worldwide, allows us to demystify the far-reaching operations and responsibilities of a modern chemical company. Among our activities in this respect in fiscal 2010, we facilitated discussions with the citizens of Shunan City, Japan—home to our Nanyo Complex.

## Eco-products and Technologies

### Safeguarding the Environment

Tosoh develops and promotes products for safeguarding the environment in the following areas:

- Energy conservation
- Environmental impact and waste reduction
- Environmental purification
- Environmental measurement and analysis

We supply hydrocarbon cleansers that permit continuous distillation recovery and that are less harmful to the ozone layer than hydrofluorocarbon cleansers. They render service in numerous industrial sectors, including metals, precision machinery, automobiles, and electrical and electronic equipment.

Our chelating agents include products that minimize the generation of carbon sulfide and that reduce corrosion in removing heavy metals from fly ash and from incinerator ash. And we supply chelating agents for removing heavy metals from effluent by converting them to easy-to-dispose-of insoluble salts. In addition, we supply agents for breaking down volatile organic compounds (VOCs) in soil. We develop those agents to accommodate different methods of soil remediation, including excavation and in situ treatment.

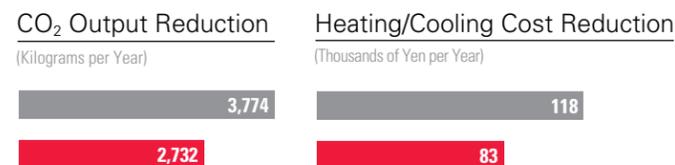
A technological breakthrough at Tosoh has eliminated the need to use organic solvents as adhesive agents to affix film coatings to plastic substrates in the extrusion-lamination process. Our breakthrough is an adhesive polyethylene film.

Our Ion Chromatograph IC-2001 detects traces of anions and cations in water. It is useful in monitoring water quality in water treatment, sewage treatment, food processing, pharmaceuticals, electronics, and other sectors.

#### POLYVINYL CHLORIDE: LOW ENVIRONMENTAL IMPACT PLASTIC

Tosoh is Japan's largest supplier of polyvinyl chloride, a product that conserves resources and minimizes environmental impact. Our vinyl chloride resin is a strong, easy-to-work-with material that neither rusts nor decays. As such, it is used globally in building materials, including in pipes, wallpaper, and window sashes, and in various household goods and medical products. Its widespread use contributes to significant reductions in carbon dioxide (CO<sub>2</sub>) emissions.

#### Energy-Efficient Vinyl Chloride Sashes (stand-alone housing)



- 1) Japan nationwide average insulated house (1980 Energy Saving Standard)
- 2) Heat pump style air conditioner set at 27°C in the summer and 18°C in the winter only when present in room
- 3) Electricity cost ¥23/kWh

■ Aluminum sashes  
■ Vinyl chloride sashes

Source: Department of Architecture, Faculty of Engineering, Tokyo University

### Solar energy products

Among Tosoh's eco-products are technologies for capturing and channeling solar energy, a market that shows promise of significant growth. We specialize in sputtering targets for solar cells and in highly conductive materials, such as aluminum-doped zinc oxide and molybdenum targets, which enhance the photovoltaic effect. Back-shielding films in solar cells contain our ethylene vinyl acetate (EVA) copolymer, which remains elastic at low temperatures but resists flexing and environmental stress cracking.

### Polyphenylene sulfide resins for hybrid vehicles

Superior heat resistance and strength afford polyphenylene sulfide (PPS) resins wide application in the power supply parts of hybrid and motor vehicles in general and in electrical devices and electronic parts, including LEDs. PPS resins therefore indirectly help to reduce CO<sub>2</sub> emissions.

### Electron transport materials for OLED displays

OLED displays find widespread use in modern televisions, lighting, portable electronic devices, and more. Because they do not need backlighting, they consume fewer resources than liquid

crystal panels. The electron transport materials developed by Tosoh are used in OLED displays.

### Zirconia

Solid oxygen ion conductivity makes 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.

### Insulating polyurethane foam

*Nippon Polyurethane Industry Co., Ltd.* Polyurethane foam has excellent insulating properties and is widely used in homes, refrigerators, and other products that benefit from its energy-saving characteristics. And it uses fluorocarbons that do not damage the ozone layer.

### Silica for energy-saving tires

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

### Compounds used in plastic window sashes

*Plas-Tech Corporation* Multi-glazed plastic window sashes made of compounds of Tosoh's polyvinyl chloride feature superior insulating properties to aluminum window sashes. Those compounds boast 1/1,000th the thermal conductivity of aluminum, greatly increasing the efficiency of heating and cooling systems and contributing to energy conservation.

### Ultrawide waterproofing sheet

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

“ We develop a diverse range of products and technologies that make a significant contribution to environmental preservation. ”

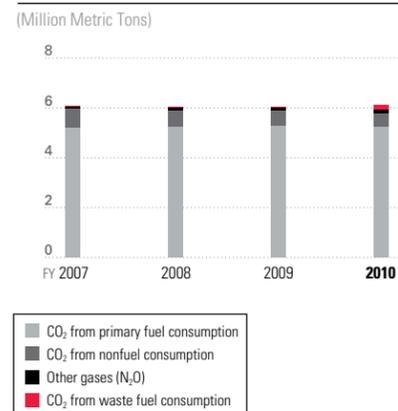
## Environment

*“ In addition to encouraging energy conservation, Tosoh implements various measures to prevent global warming, including increasing energy efficiency and decreasing carbon dioxide emissions. ”*

### Confronting Climate Change

Japan and other nations that have adopted the United Nations Framework Convention on Climate Change (the Kyoto Protocol) are tackling their first-phase targets for reducing the output of greenhouse gases. We at Tosoh are doing our part by working to reduce our output of carbon dioxide and other greenhouse gases through energy savings in manufacturing and logistics and through other measures.

Atmospheric Emissions of Greenhouse Gases



### Energy efficiency

Tosoh is continuously improving energy efficiency in the manufacturing process. A key strength of the company is its use of coal-powered energy-self-generating plants. Using efficient turbines to generate energy and making use of a portion of the steam from the boilers as heat energy, we can distribute the energy in a more balanced way across our manufacturing facilities.

Use of wood biomass as fuel for the generation of power also contributes to CO<sub>2</sub> reduction, and using refuse-derived fuel (RDF) made locally from household waste provides a direct benefit to the local community.

Electrolysis plants, which require electrolysis tanks that use the most electricity, are a demonstration of energy-saving in action. We almost doubled production since 1990 and still managed to reduce energy calorie units by 10%. The n-BITAC electrolysis tanks we developed together with Chlorine Engineers Co., Ltd. is able to reduce electricity calorie units by 9% and is being used by electrolysis makers in the US, Europe, and Asia.

### Reducing CO<sub>2</sub> in manufacturing

Reducing greenhouse gases is an urgent need of Tosoh. Chemical companies are trying various methods of cutting the output of CO<sub>2</sub> that necessarily accompanies the manufacturing of chemical substances. However, because it is not only the manufacturing phase of the substances that needs to be looked at, but the entire life cycle, we are considering Life Cycle Assessment (LCA) strategies as well.

Many different types of energy are used to manufacture chemical substances and a considerable volume of CO<sub>2</sub> is emitted as a result. However, it is also true that as a result of using these substances in households and in the community, we are contributing to lessening CO<sub>2</sub> output (as in cases whereby metal pipes are replaced by polyvinyl chloride pipes). The ICCA has calculated just how much CO<sub>2</sub> production can actually be reduced by the chemical industry for the world economy. Tosoh is examining the possibility of using life cycle assessments as one more way to further reduce greenhouse gases. We are proud contributors to the reduction of CO<sub>2</sub> output through the manufacturing of polyvinyl chloride, one of the raw materials

that go into the manufacturing of the sashes, and other products that help reduce the burden of CO<sub>2</sub> on the environment.

### Reducing CO<sub>2</sub> in distribution

Significant energy savings can be achieved in the distribution of products by using bigger shipping lots and modal shifts, or a shift from the transportation of goods by truck to the more efficient rail or ship, which can cut CO<sub>2</sub> emissions by about 30%.

### Routine initiatives

In large-scale business and industry, little habitual efforts made daily add up to big savings over time. Such as simply dimming lights. Several times a year at the Nanyo and Yokkaichi Complexes, lights are lowered and night-time lights are turned off in those workplaces that pose no threat to safety, as part of the effort to help conserve energy. In 2010, the Nanyo Complex successfully reduced CO<sub>2</sub> output by 2.8 tons, or the equivalent of about a year's worth of energy used in a regular household in Japan. At the Yokkaichi Complex, with the Kasumigaura Area Environment Drive Council, a reduction of 0.4 tons of CO<sub>2</sub> was achieved each time the lights were dimmed. The Yokkaichi

Complex plans to continue these efforts every two months.

### Eco-commuting

We encourage changes in commuting options to walking, cycling, public transportation or ride share programs. Our Yokkaichi Complex has teamed up with 13 companies in the neighborhood, along with eight shipping businesses and the Yokkaichi Port Management Union to start the Kasumigaura Area Environment Drive Council to promote eco-commuting once every two months. The effort includes the launch of the CNG (compressed natural gas) commuter bus and Eco-Commute Week (once a year for five consecutive days), reducing CO<sub>2</sub> by as much as 2 to 3 tons with each eco-commute campaign. The No-Private-Car Day at the Nanyo Complex (held four times a year) decreased CO<sub>2</sub> output by 4.5 tons in 2010.

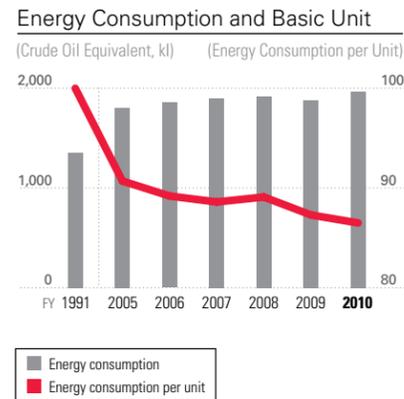
### Conserving energy

Tosoh has created a self-feeding system for electricity and steam by way of an in-house electrical power facility. One of the largest in Japan's private sector, this system powers the vinyl isocyanate business, which focuses on chlor alkali

products produced by electrolysis and vinyl chloride monomer plants. It also powers the isocyanate business of Nippon Polyurethane Industry Co., Ltd., a Tosoh subsidiary. We have also organically linked production plants for diverse product groups in the fine chemicals and specialty chemicals domains, and are working to reduce energy consumption for more efficient production at all complexes to continue our environmentally friendly practices.

### In-House Power Plant

The state-of-the-art boiler no. 6 at the no. 2 power plant for the co-firing of woody biomass is a Nanyo Complex asset that supplies power and steam to all production plants via multiple in-house power plants. The complex operates boilers enabling the mixed combustion of coal and woody biomass, and the no. 6 boiler boasts a high-efficiency 220,000 kW power generating unit. Tosoh also stopped using low energy efficient power generating units, and as a result of these actions it achieved around a 19% reduction in energy consumption.



As a result of efforts to increase the capacity utilization rate of power generation facilities newly introduced at the Nanyo Complex, and to make electrolyzer cells more sophisticated, we improved energy consumption per unit in fiscal 2010 13.5% relative to fiscal 1991, to 86.5%.

**Electrolysis Plant**

Our new bipolar ion-exchange membrane electrolyzers (n-BiTAC), developed using the accumulated know-how and experience of Tosoh and Chlorine Engineers Co., Ltd., feature an enhanced zero-gap system and advanced internal circulation efficiency, enabling a reduction in electrical voltage. They consume about 9% less power than conventional electrolyzers of comparable capacity. The electrolyzers have been employed by numerous manufacturers in Europe, the United States, and Asia, contributing greatly to lower carbon dioxide emissions. Going forward, we will continue striving to improve our electrolyzers.

**Vinyl Chloride Monomer Plant**

Our equipment to recover heat in the purification process of ethylene dichloride (EDC) production and our heat recovery using gas from the EDC cracker save a considerable amount of energy. VCM is produced by pyrolyzing EDC, and the distillation column in the EDC purification process uses a large quantity of steam. We developed a heat recovery system for the distillation column that

succeeds in reducing steam consumption 50% compared with conventional processes. We have also developed a system in which the high-temperature gas from the EDC cracker is used to heat the raw material EDC, thus lowering fuel used in the cracker around 45%. In addition, we effectively utilize the hydrochloric acid by-product at our isocyanate plants as a raw material, which saves considerably on energy and resources.

**Ethylene Plant**

Tosoh is making use of high efficiency gas turbines that reduce fuel consumption. At the Yokkaichi Complex ethylene plant, we apply technology that recovers heat from gas turbine emissions and make use of liquefied natural gas (LNG). We have also established an integrated system in which the high-temperature gas emitted by gas turbines is used to heat the air for combustion in the naphtha crackers, resulting in around a 10% reduction in fuel used in the crackers.

**Conservation and logistics**

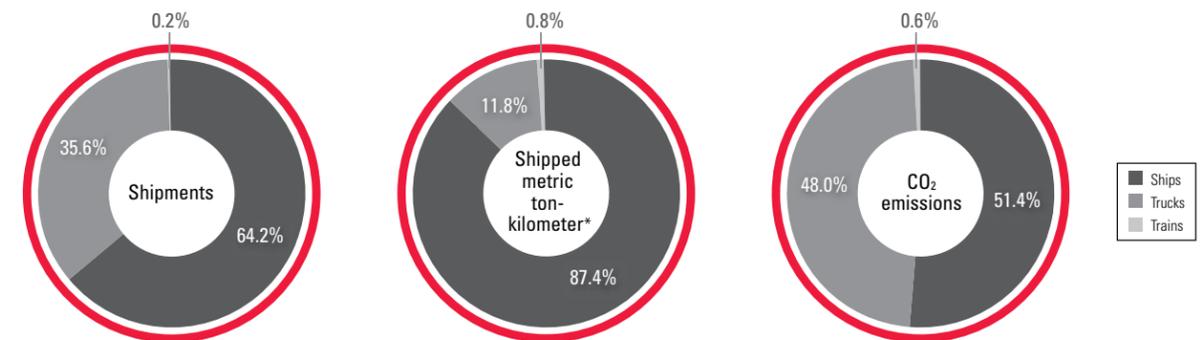
The Companywide Logistics Energy Conservation Promotional Committee was set up in response to Japan's amended Energy Conservation Law, enacted in April 2006. Under that committee, work has gone forward in reducing the energy used in our logistical operations. In fiscal 2010, CO<sub>2</sub> emissions by our transport operations amounted to 56,000 metric tons. The metric ton-kilometer\* measure for sea and rail transport was raised to 88.2%, representing the achievement

of considerable progress by this modal shift\*\* in logistics. The metric ton-kilometer ratio for the 11.8% transported by truck represented 48.0% of CO<sub>2</sub> emissions by these operations. To reduce emissions further, Tosoh will intensify its efforts in the modal shift to sea and rail transport, while improving its ground transport efficiency. We have raised energy efficiency in truck transport by adopting extralarge trailers, which carry twice the volume of conventional large trailers and reduce CO<sub>2</sub> emissions per metric ton of

cargo 30%. So we continue working to shift shipments to water and rail and to maximize efficiency in the shipments that we need to handle on trucks.

\* Ton-kilometer - A unit of measurement often used in transport operations. The number of metric ton-kilometers equals the weight in metric tons of material transported multiplied by the number of kilometers driven.  
 \*\* A modal shift occurs when one mode of transport has a comparative advantage with respect to another in a similar market. Comparative advantages assume various forms, including cost, capacity, time, flexibility and reliability.

**EXPORTS AND CO<sub>2</sub> EMISSIONS**



\*Shipped metric ton-kilometer: amount shipped x distance shipped (not including shipping after clearing export customs or before clearing import customs for raw material fuels)

“ Significant reductions in energy consumption are resulting from innovations in the use of fuels, of systems that reduce the amount of required electrical voltage, and of methods for recovering heat energy. ”

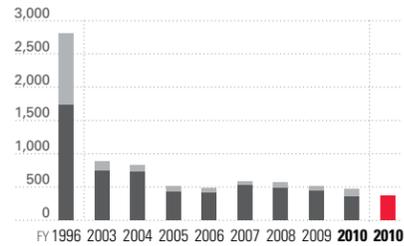
## Pollutants

Tosoh implemented various measures to attain a target of reducing emissions of substances covered by Japan's Pollutant Release and Transfer Register (PRTR) Law 87%, to less than 360 metric tons, by fiscal 2010, compared with fiscal 1996. We fell short of this target but did achieve a year-on-year reduction of 40 metric tons in fiscal 2010, to 470 metric tons, which marks an 83% reduction from fiscal 1996, mainly through the construction of environmental facilities for chloroethylene.

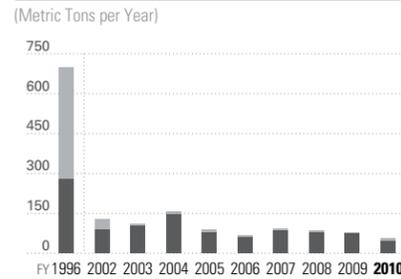
We expect to achieve the 87% target one year behind schedule, in fiscal 2011, as we plan to complete environmental facilities for, among other substances, vinyl acetate, ethylenediamine, and chloroethylene during the period ahead.

Because of revisions to the PRTR Law, the number of designated substances will rise from 354 to 462 in fiscal 2011. This means the number of substances Tosoh intends to reduce will increase from 58 to 69, as will the total amount of emissions. As such, we have set a new target to be achieved by fiscal 2013; that is, to reduce emissions to less than 330 metric tons, or above 88%, relative to fiscal 1996. We are also working to reduce emissions of VOCs.

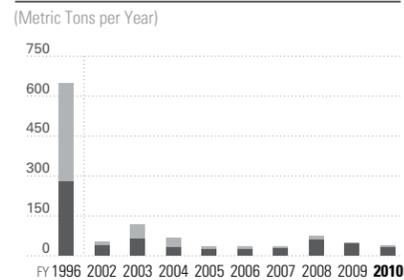
Total Emissions of PRTR-Designated Substances  
(Metric Tons per Year)



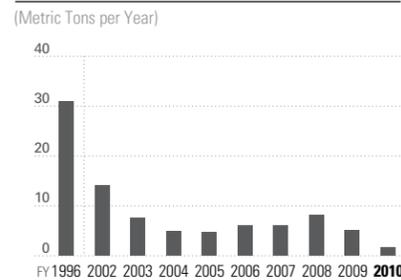
Chloroethylene  
(Metric Tons per Year)



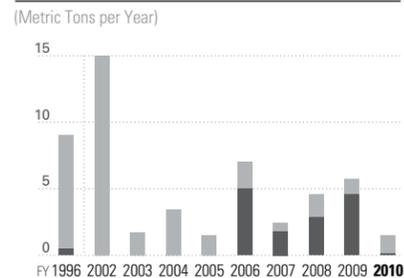
1,2-dichloroethane  
(Metric Tons per Year)



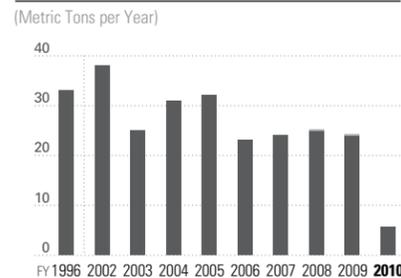
1,3-butadiene  
(Metric Tons per Year)



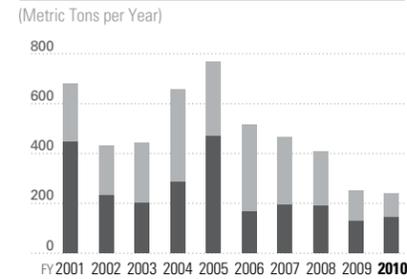
Benzene  
(Metric Tons per Year)



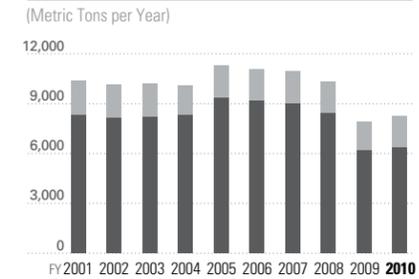
Chloroform  
(Metric Tons per Year)



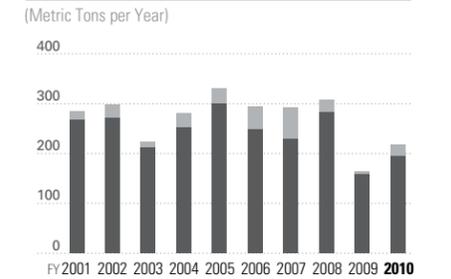
SO<sub>x</sub>  
(Metric Tons per Year)



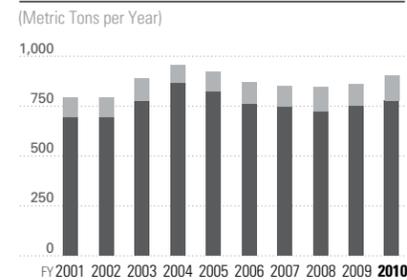
NO<sub>x</sub>  
(Metric Tons per Year)



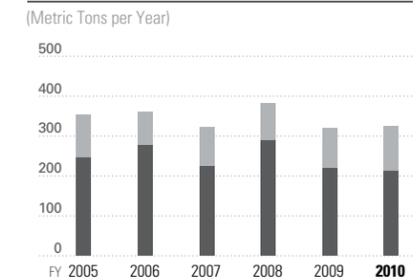
Dust  
(Metric Tons per Year)



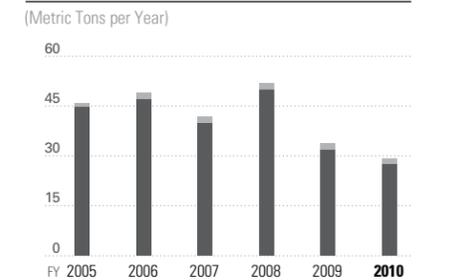
COD  
(Metric Tons per Year)



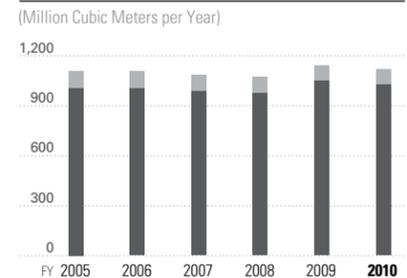
Nitrogen  
(Metric Tons per Year)



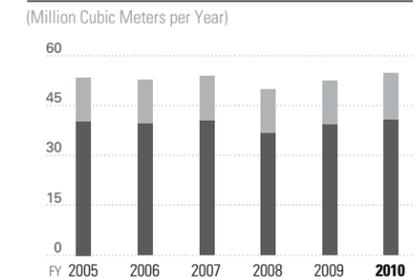
Phosphorus  
(Metric Tons per Year)



Wastewater (including seawater)  
(Million Cubic Meters per Year)



Water Consumption (excluding seawater)  
(Million Cubic Meters per Year)



The graphs above detail our progress in curtailing atmospheric emissions of sulfur oxides, nitrogen oxides, and dust. Reducing output of those substances is

important in preventing acid rain and respiratory health problems, and we continue working to curtail our emissions further. We take the initiative in keeping

our emissions of waterborne pollutants well below the levels mandated by Japan's Water Pollution Control Law.

## Manufacturing Site Report

### Nanyo Complex

Tosoh's Nanyo Complex is located within the Seto Inland Sea National Park in Yamaguchi Prefecture and is a core facility in the Shunan Petrochemical Complex. Since its establishment in 1935, the Nanyo Complex has produced cement, polyethylene, synthetic rubber, and various specialty products. It focuses on the production of chlor-alkali products, such as caustic soda and vinyl chloride monomer. The chlorine, hydrogen, caustic soda, and other materials it manufactures are piped to companies throughout the petrochemical complex. The Nanyo Complex also furnishes those other

companies with its excess electricity and steam for power generation.

The Nanyo Complex is home to Japan's only bromine recycling facility and combined chlorine recycling facility and cement plant. The complex efficiently uses waste generated by Tosoh Group members and by companies outside the group as recyclable resources. In addition, the Nanyo Complex engages in wide-ranging activities to protect its beautiful natural surroundings, reducing its environmental burden, eliminating waste, and cultivating green space.

### Yokkaichi Complex

Tosoh's Yokkaichi Complex is situated within the Kasumi Industrial Complex,

which is located on an artificial island protruding into Ise Bay in Mie Prefecture. The island was created in 1970 after careful consideration of environmental issues. Site planning placed the highest priorities on pollution and disaster prevention, harmony with the local community, and ease-of-access and transportation considerations. A canal separates the industrial complex from nearby residential districts by more than 200 meters.

At 1.14 million square meters, the Yokkaichi Complex occupies about one-third of the industrial complex site. Its integrated production systems include an electric power generation plant and the only ethylene production center in the Chubu region.

### NANYO COMPLEX

Principal Products:  
Caustic soda, chlorides, vinyl chloride monomer, PVC paste, cement, polyethylene, polychloroprene rubber, specialty products

Environmental Data	
SO <sub>x</sub> emissions volume	150 metric tons per year
NO <sub>x</sub> emissions volume	6,400 metric tons per year
Dust emissions volume	200 metric tons per year
Substances subject to the PRTR Law emissions volume	360 metric tons per year
COD emissions volume	780 metric tons per year
Total nitrogen emissions volume	210 metric tons per year
Total phosphorus emissions volume	28 metric tons per year
Final waste materials disposal volume	0 metric tons per year
Number of complaints	
Odor	0
Noise	0
Vibration and others	0

### YOKKAICHI COMPLEX

Principal Products:  
Ethylene, propylene, cumene, polyethylene, PPS resins, petroleum resins, vinyl chloride monomers, PVC resins, caustic soda, chlorides

Environmental Data	
SO <sub>x</sub> emissions volume	95 metric tons per year
NO <sub>x</sub> emissions volume	1,900 metric tons per year
Dust emissions volume	22 metric tons per year
Substances subject to the PRTR Law emissions volume	110 metric tons per year
COD emissions volume	130 metric tons per year
Total nitrogen emissions volume	110 metric tons per year
Total phosphorus emissions volume	2 metric tons per year
Final waste materials disposal volume	1,800 metric tons per year
Number of complaints	
Odor	0
Noise	0
Vibration and others	0

### INPUT AND OUTPUT

Energy consumption  
(Crude oil equivalent)

2.0 million kiloliters

Raw materials

6.8 million metric tons

Water consumption

(Excluding seawater)

55.0 million metric tons

Parent company  
Tosoh Corporation

Products  
6.1 million  
metric tons

### INPUT

Energy consumption  
(Crude oil equivalent)

130,000 kiloliters

Raw materials

260,000 metric tons

Water consumption

9.5 million metric tons

Group companies in Japan  
(All 17 companies are 100% wholly owned manufacturing companies)

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.  
Rensol Co., Ltd.

### OUTPUT

Products  
350,000  
metric tons

#### ATMOSPHERIC EMISSIONS

CO <sub>2</sub> (based on fuel consumption)	6.6 million metric tons
CO <sub>2</sub> (based on nonfuel consumption)	650,000 metric tons
CO <sub>2</sub> (based on waste-disposal fuels)	20,000 metric tons
N <sub>2</sub> O	200,000 metric tons
SO <sub>x</sub>	240 metric tons
NO <sub>x</sub>	8,300 metric tons
Dust	220 metric tons
PRTR-designated substances	230 metric tons

#### WATER EMISSIONS

COD*	900 metric tons
Phosphates	29 metric tons
Nitrogen	330 metric tons
PRTR-designated substances	240 metric tons
Wastewater (including seawater)	1.1 billion metric tons

\*Chemical oxygen demand

#### SOIL EMISSIONS

PRTR-designated substances	0 metric tons
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Landfill waste	1,800 metric tons
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#### ATMOSPHERIC EMISSIONS

CO <sub>2</sub>	290,000 metric tons
HFC*	4,000 metric tons
SO <sub>x</sub>	580 metric tons
NO <sub>x</sub>	140 metric tons
Dust	21 metric tons
PRTR-designated substances	76 metric tons

\*Hydrofluorocarbons

#### WATER EMISSIONS

COD*	23 metric tons
Phosphates	0.3 metric tons
Nitrogen	32 metric tons
PRTR-designated substances	7 metric tons
Wastewater (including seawater)	8.2 million metric tons

\*Chemical oxygen demand

#### SOIL EMISSIONS

PRTR-designated substances	3,600 metric tons
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Landfill waste	30,000 metric tons
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## Recycling and Waste Management

### Recycling at cement plant

Tosoh's Nanyo Complex cement plant uses the coal ash from the company's power generating facilities in its production of cement. It also uses combustible waste, slag, sludge, scrap tires, and RDF from outside the company. The cement kiln's high temperature, at around 1,500°C, breaks down all toxins that arise in incinerating such items. That allows for the safe use of what remains after incineration, which are the components of cement—calcium oxide, silicon dioxide, aluminum oxide, ferric oxide, and the like—either as raw material for cement or as further fuel for the kiln. Approximately 500,000 metric tons of waste and by-products are processed at our cement plant every year.

A chlor-bypass system even enables the cement plant to process different waste plastics, including PVC. The system recovers and purifies the chloride from plastics and from other compounds in the dust that arises in the cement plant and makes effective use of it in its operations.

Tosoh will continue with initiatives to recycle waste and by-products in the interest of promoting recycling within society at large.

### Refuse-derived fuel

RDF, which is produced by solidifying household waste, is a fuel for the Nanyo Complex's cement plant. Tosoh cooperates with the environmental administration of Shunan City, Yamaguchi Prefecture, by using all of the RDF produced at the city's Phoenix fuel conversion facility for its cement plant at the nearby Nanyo Complex, thus helping to promote recycling in the region.

### Recycling waste plastic

Shunan City is building a plastic recycling facility scheduled to begin operation in April 2011 near the Nanyo Complex. The waste plastic from this facility will be used as fuel at the cement plant. The Nanyo Complex already uses RDF produced within the community. And Tosoh intends to contribute further to the community by developing technology for a system that recycles waste plastic.

### Halogen recycling facilities

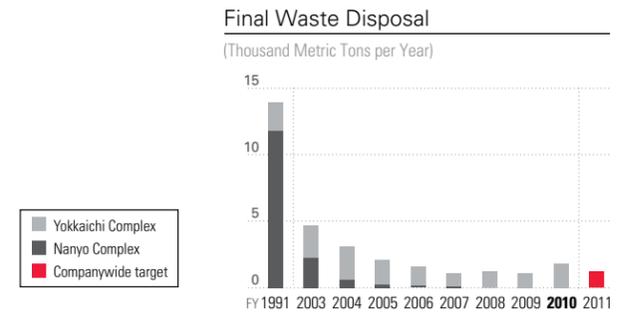
Tosoh operates a dedicated facility for recycling chlorine and bromine from various types of waste liquids generated in its operations and those of the manufacturers of pharmaceuticals and agricultural and other chemicals. The chlorine and bromine recovered are used as materials in VCM and flame retardants, and the heat released in the recycling process is reused as steam.

### Recycling facility for salt by-product in ethyleneamine production

Tosoh has developed a proprietary process to recover and purify the salt by-product of its ethyleneamine production, which it then electrolyzes.

## AMOUNTS OF INDUSTRIAL WASTE DISPOSED OF

Tosoh's recycling efforts are aiming for a figure below 1,500 metric tons for the total disposal of industrial waste in fiscal 2011. This represents an 89% reduction compared with fiscal 1991. New plant construction increased disposed of waste at Tosoh 700 metric tons in fiscal 2010 over the previous year, to 1,800 tons, which is 87% less than in fiscal 1991. Tosoh continues its efforts to efficiently employ resources and to limit its industrial waste.



*“Tosoh promotes the recycling of materials and wastes as well as the establishment of ever more efficient and cost-effective ways to generate electrical power.”*

## Safety

### Managing Plant Safety

Tosoh's approach to safety revolves around a proactive, groupwide culture that promotes personal responsibility in observing laws and ordinances. That approach also encompasses measurable plans that guide everyone's actions, the careful management of facilities to prevent accidents and disasters, education and training in emergency systems and related technologies, the elimination of accidents and disasters through meticulous analysis, the building of trust through openness and dialogue with the community, and checks and balances designed to improve subsequent action plans.

We thoroughly check the raw materials used in research and development to ensure their safety, and we handle them with utmost care. At our plants, we debate and research the safety aspects of manufacturing, quality control, and design from a variety of perspectives. And before starting production, we work to reduce risks at plants and to establish strict controls and auditing systems.

#### Systematic approach

We work systematically to detect and resolve latent dangers in our plants. Our approach centers on conducting hazard and operability studies in combination with failure modes and effects analyses. Hazard and operability studies identify risks from an operational standpoint,

and failure modes and effects analyses pinpoint risks from the standpoint of equipment management. The findings of the studies and analyses furnish a basis for determining appropriate countermeasures.

An analytical technique known as risk-based inspection provides for calculating risk as the mathematical product of the incidence and the consequence of damage. That provides a basis for optimizing plant-inspection coverage and scheduling.

The Nanyo Complex received certification under the self-inspection provisions of Japan's High-Pressure Gas Control Act, and 12 of its facilities have received new or renewed certifications. In fiscal 2010, the Nanyo Complex was recertified. Efforts are now being undertaken to achieve certification for the Yokkaichi Complex in fiscal 2011.

We accompany risk analysis with ongoing activities for ensuring preparedness. A continuing series of drills and training programs help prepare our employees to respond appropriately to fires, earthquakes, spillages, and other kinds of disasters and accidents.

### Occupational Health and Safety

Tosoh strives to prevent accidents and lost-time incidents by implementing the Occupational Safety and Health Management System (OSHMS), which

includes the risk assessment of processes and facilities and the analysis of close-call incidents. Safety assurance activities were strengthened in fiscal 2010 with an examination of the initiatives and conditions of the production divisions in the Nanyo Complex by independent RCM project teams, while other efforts focused on the Yokkaichi Complex, which includes two group companies.

Meetings to exchange information on safety-related matters were held for four group companies in the Yamagata region to bolster safety throughout the organization during the period.

As a result, only one Tosoh employee and one affiliate employee missed work because of accident, a decrease from the previous fiscal year. Tosoh will continue to make improvements to ensure effective safety initiatives in working to eliminate accidents and lost-time incidents.

To raise safety awareness among workers and contribute to a reduction in occupational accidents, Tosoh has created a database of accidents, occupational injuries, and close calls from inside and outside the group. Reporting and sharing experiences of close calls, plus analyzing the data, yields valuable insights into ways to prevent similar accidents or injuries and to execute key safety measures.

*“Tosoh works to create a culture of safety through its policies and activities related to plant safety, handling chemicals, and the health and welfare of its workforce.”*

### Employee health maintenance

At Tosoh, we provide overall support for our employees to ensure their sound mental as well as physical health. Besides implementing companywide measures to combat new types of influenza, health promotion committees at all work sites execute various action plans annually. These activities include walking events, various campaigns, health checkups by specialists, and health-related lectures aimed at maintaining and enhancing health and at ensuring a comfortable workplace and work environment. We also provide fundamental education on mental health to general employees, and we train management on how to approach workers and to listen to their concerns.

Objectives of health-related measures:

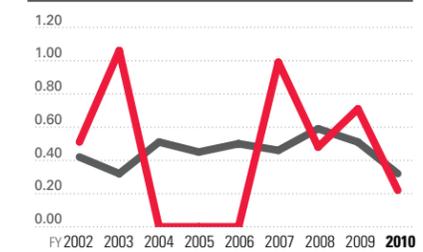
1. Maintain and enhance the mental and physical health of employees
2. Focus energy on activities from the perspective of prevention and early discovery
3. Make sure all Tosoh Group employees are healthy and that the workplace is bright

### Logistics Safety

We have updated our logistics emergency-response network and put in place local contact points throughout Japan for fielding notifications of accidents and to respond promptly in cleaning up any spillage of hazardous substances. We also continue working with logistics companies to maximize operational safety.

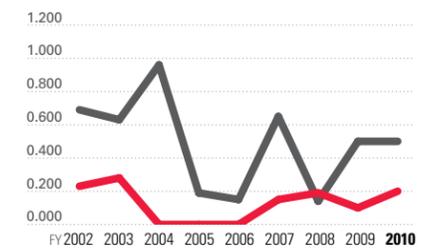
### NUMBER AND SEVERITY OF OCCUPATIONAL INJURIES

Comparative Occurrence Rates



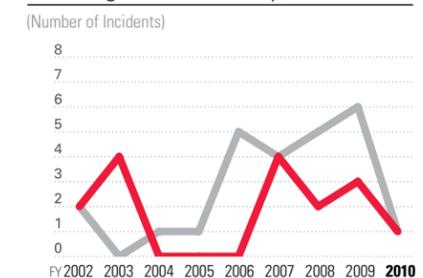
**Occurrence rate** = (number of injuries and deaths / total work hours) × 1,000,000

Comparative Severity Rates



**Severity rate** = (number of lost workdays / total work hours) × 1,000

Number of Industrial Injury Accidents Resulting in Lost Workdays



■ Tosoh employees  
 ■ Eight JICIA industrial sectors  
 ■ Contractor company employees

“Tosoh strives to provide products that satisfy customers, and each manufacturing facility operates according to a philosophy and policies for quality. We work to improve quality and to reduce product complaints.”

## Product Safety

Tosoh's product safety review rules are based on its Fundamental Policy for Product Safety. In that context, we perform extensive monitoring and evaluation of the hazards and toxicity of our products.

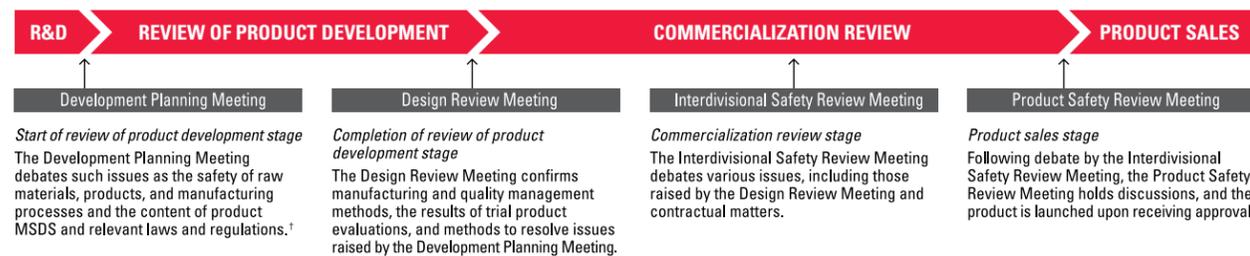
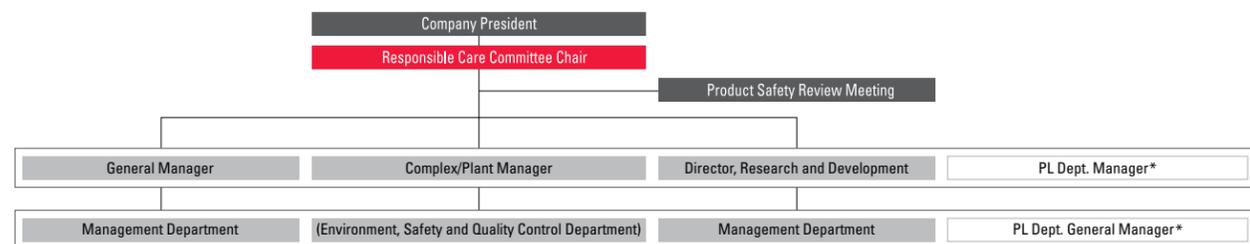
### Policy on product safety

In the spirit of Japan's Product Liability Law, every employee at Tosoh works to ensure the safety of the company's products. We provide our customers with safe products and the necessary product information to meet their every concern. In so doing, we endeavor to prevent product accidents and to contribute toward a more-prosperous society and its further economic development.

### Product screening

Based on a fundamental policy of providing safe products to customers, Tosoh has formulated regulations concerning product safety screening. The screening process is carried out under the management system outlined below. We conducted product safety screening 46 times in fiscal 2010.

#### MANAGEMENT SYSTEM FOR PRODUCT SAFETY SCREENING



\*PL refers to product liability

<sup>1</sup>MSDS refers to material safety data sheets containing information about the properties of a particular substance

## Participation in Collaborative Initiatives

The 2002 World Summit on Sustainable Development, held in Johannesburg, set goals for minimizing the environmental and health impact of chemical products and their manufacturing by 2020.

That summit led to the establishment in 2006 of the Strategic Approach to International Chemicals Management as a policy framework for promoting chemical safety worldwide. Tosoh is a signatory to the Japan Chemical Industry Association's declaration of support for the Responsible Care Global Charter promulgated by the International Council of Chemical Associations in connection with that framework.

We conduct scientific risk assessment and reporting under the High Production Volume Chemicals Program promoted by the Organization for Economic Cooperation and Development. Under that program, we have registered 20 substances through the International Council of Chemical Associations and the Japan Chemical Industry Association. In October 2009, we registered one substance, 1-bromopropane, with the Japan Challenge Program, a government-industry collaboration.

## Green Purchasing

Our measures for safeguarding the environment include monitoring our suppliers' adherence to environmental quality standards. This involves identifying substances that are present in raw materials. In this way, we participate actively in our customers' green purchasing programs. We also host on-site inspections by customers.

## Quality Assurance

Tosoh strives to provide products that satisfy customers. Each manufacturing facility operates according to a philosophy and policies for quality and works to improve quality and reduce product complaints. Each manufacturing division formulates a quality improvement plan with the objective of continuous quality improvement.

### System for management of pharmaceutical and medical products

Tosoh has a system for managing the pharmaceutical and medical equipment products it manufactures and markets. The company has acquired authorization for its manufacturing and sales operations with overall responsibility for production management, quality management, and post-marketing safety management.

## Customer support

Tosoh has established a Customer Support Center within its Bioscience Division. That center ensures the maintenance of medical products and the after-sales service for test reagents and answers customer inquiries. Tosoh Group company Tosoh Techno-System, Inc., takes care of bioscience-related equipment repair and inspection.

## Management

### Responsible Care Activities

Fulfilling the goals of our Responsible Care program receives top priority in management, and the company president is actively a part of that oversight process, as can be seen in the Responsible Care Promotion System chart. Operating under him is the Tosoh Responsible Care Committee. Chairing that committee is the senior-most executive responsible for environmental protection, safety and health, and quality assurance, and the committee comprises the general managers of all pertinent divisions and laboratories. Supporting the committee is a secretariat based in our Environment, Safety and Quality Control Department.

The Responsible Care Committee drafts annual action plans and translates them into concrete targets and guidelines for individual units in the Tosoh organization. Its members, working with the Responsible Care secretariat, conduct plan-do-check-act cycles to design measures, to implement the measures, to monitor the results, and to make adjustments as necessary to address problems that arise.

More than once a year, the chairperson of the Responsible Care Committee leads audits of progress in fulfilling the overall goals of the Responsible Care program. The annual PDCA cycle ensures that each year's findings bring improvements in the following year so that Responsible Care activities continue to improve.

*“The Responsible Care Committee drafts annual action plans and translates them into concrete targets and guidelines.”*

#### Activity categories

##### Environmental Preservation

Protecting nature and the health of people everywhere

##### Disaster Prevention

Preventing disasters at facilities and responding to natural disasters

##### Occupational Safety and Health

Protecting the safety and health of workers

##### Chemical and Product Safety

Training workers and customers in the safe handling of chemical substances for safety's sake and for reasons of environmental protection

##### Quality Control

Maintaining high standards of quality by improving quality assurance inspection systems

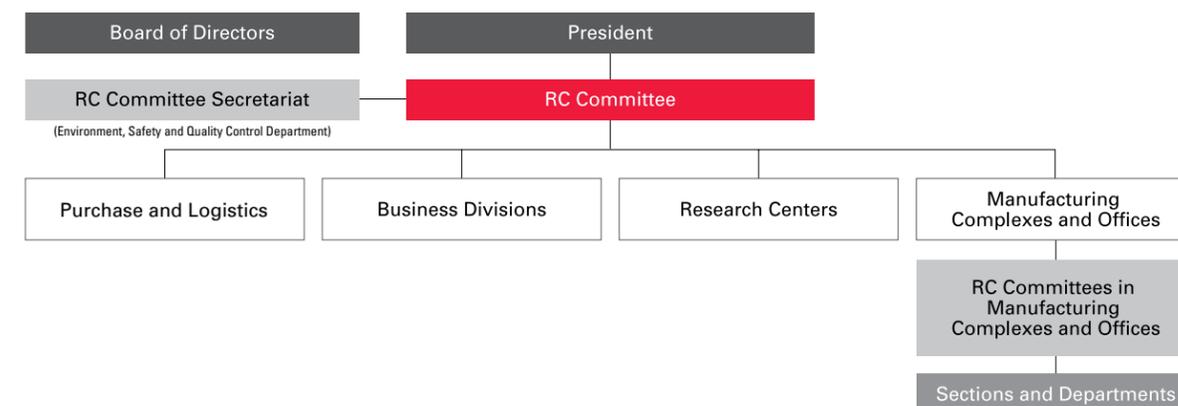
##### Logistics Safety

Striving for the accident-free distribution of products and substances and the prevention of disasters

##### Dialogue with the Public

Making our activities and results transparent and promoting constructive dialogue

#### RESPONSIBLE CARE PROMOTION SYSTEM



#### THE PDCA CYCLE

##### Plan

- RC Committee
- Report to chairman and president
- Board of directors ratifies

##### Do

- Implement RC activities

##### Check

- RC audits

##### Act

- RC Committee (plan next fiscal year)



*“Tosoh works to continuously improve the performance of its health, safety, and environment-related activities and to communicate with stakeholders about products, processes, and achievements.”*

## The Workforce

Tosoh's employees are the company. We work to ensure that their individual career development is in line with personal goals and that they have a supportive and fulfilling work environment.

### Employee training

We equip and encourage employees to recognize problems and to initiate remedial action. And we strive to motivate employees by displaying fairness and sensitivity in human resources management.

### Time off for family

Tosoh employees can request a reduction of up to two hours in their workday to care for young children or to attend to sick, injured, or infirm relatives. The time off for child care is available until the children complete their third year of elementary school.

### Sexual harassment prevention

We abide by zero tolerance in regard to sexual harassment. Our training programs emphasize that policy, and we deploy managers at every facility whose responsibilities include fielding complaints about sexual harassment, providing confidential counseling, and

referring especially serious complaints to our Anti-sexual Harassment Committee. That committee comprises representatives of management, of the company union, and of the company's counseling staff. It reviews complaints and takes remedial measures as necessary.

### Reemployment

Japan's baby-boom employees are approaching retirement age. We have instituted a reemployment system for retiring employees to ensure the transmission of their skills to the next generation.

## The Community

### Public-interest activities in Japan

Year-round plant tours at our Nanyo and Yokkaichi complexes are fun and educational for school classes and other groups. We lend our support, meanwhile, to community activities, such as sporting events and festivals. And we participate regularly in community forums where company representatives field questions and comments about the company's operations and undertake follow-up countermeasures as warranted. That includes participating in community

dialogue meetings convened under the auspices of the Japan Responsible Care Council.

Employees at several Tosoh plants in Japan, frequently joined by family members, participate in neighborhood cleanups and watershed maintenance activities.

### Red Cross blood drives in America

For over a decade, members of our Grove City, Ohio, office in the United States have banded together to increase the well-being of their community by participating in frequent Red Cross blood drives, encouraging all employees and their families to join in. Fresh approaches to generating interest, such as inviting guest speakers to share personal success stories, have resulted in continually increasing participation over the years. Every unit of blood donated has the potential to save a life, and in fiscal 2010 the Grove City office set a record, collecting 191 units, or enough to save 764 lives. In the past five years, Tosoh has donated a grand total of 832 units, enough to save 3,328 lives.

### Improving quality of life

The Tour de Cure is a series of cycling events held in 40 states across the United States in support of the American

Diabetes Association's mission. It began in 1991 and since has attracted thousands of individual riders and teams in fundraising for the prevention and cure of diabetes and the improvement of the lives of diabetics. The tour is a ride, not a race, with routes designed for everyone from the occasional rider to the experienced cyclist. Tosoh Bioscience in California formed a corporate team to participate in and collect donations for the fiscal 2010 event.

In Ohio, five Tosoh subsidiaries gathered hundreds of gifts for local disadvantaged families during the Christmas season. Employees took the initiative in launching the gift drive and in delivering the presents to an organization called the Homeless Families Foundation.

### Inspiring team efforts

Clinical diagnostics pioneer Tosoh Bioscience in California sponsors two local, San Francisco-based little league baseball teams. It followed up on its sponsorship with a company outing to a San Francisco Giants game. The sponsorship is part of Tosoh Bioscience's quest to inspire within the local community a team approach to overcoming obstacles and the need for perseverance in dealing with the ups and downs along the road to victory.

### Creating opportunity

In Southeast Asia, the Tosoh affiliate P.T. Standard Toyo Polymer in Indonesia serves its community in several ways. It hosts a pair of interns from local high schools each month and gives the interns hands-on training in quality control, equipment maintenance, and other practical subjects. The company donates meat and rice annually to needy families in its vicinity and takes part in such volunteer efforts as clearing debris from local canals.

*“Tosoh interacts with the communities in which it does business by involving people in, and informing them of, its safety and quality assurance efforts and by educating them about its business overall.”*

## Environmental Accounting

Tosoh maintains a diligent regime of environmental accounting to gauge the costs, benefits, and results of efforts related to investment in environmental protection and safety in quantitative terms.

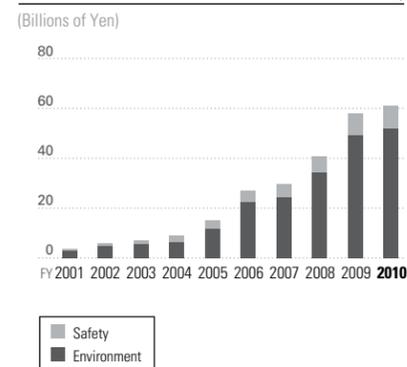
In fiscal 2010, our total investment in environmental protection amounted to ¥2.5 billion (US\$26.9 million), mainly to expand facilities at our ethyleneamine and electrolysis plants and to build new facilities at our plant for high-silica zeolites. This amount was down ¥12.3 billion on the previous year because of a decline in large investments overall. The total cost of environmental protection activities in fiscal 2010 was ¥16.9 billion. The total economic benefit of these activities in fiscal 2010 was ¥7.1 billion, due mainly to a reduction in power generation costs owing to the installation of a new boiler at the power generating facility and to a reduction in raw materials.

### Cumulative investment in environment and safety

Our aggregate investment in the environment over the past 10 years is ¥51.9 billion (US\$558.2 million).

Complementing our investment in environmental protection measures is our ongoing investment in measures for ensuring workplace safety, including seismic safety. Our investment in safety measures totaled ¥260 million (US\$2.8 million) in fiscal 2010, which increased our aggregate, 10-year investment in those measures to ¥9.0 billion (US\$96.7 million).

Cumulative Investment in Environment and Safety



## ENVIRONMENTAL PROTECTION COSTS

(Billions of Yen)

	Capital spending		10-year total (FY 2001–FY 2010)	Current expenditures
	FY 2010	FY 2009		FY 2010
Costs within business area	<b>2.3</b>	14.1	49.5	<b>14.3</b>
Pollution prevention	<b>1.5</b>	7.6	28.5	<b>7.8</b>
Global environmental protection	<b>0.4</b>	5.2	9.0	<b>2.9</b>
Resource recycling	<b>0.4</b>	1.3	12.1	<b>3.7</b>
Administration	<b>0.0</b>	0.0	0.4	<b>0.9</b>
Research and development	<b>0.1</b>	0.6	2.5	<b>1.5</b>
Social activities	<b>0.0</b>	0.0	0.0	<b>0.2</b>
Other	<b>0.0</b>	0.0	0.0	<b>0.0</b>
<b>Total</b>	<b>2.5</b>	14.8	52.4	<b>17.0</b>

## ENVIRONMENTAL PROTECTION BENEFITS

	FY 2010	FY 2009	Change
Amount of energy used (thousand kl crude oil equivalent)	<b>2,000</b>	1,800	200
SO <sub>x</sub> emissions (metric tons)	<b>240</b>	250	-10
NO <sub>x</sub> emissions (metric tons)	<b>8,300</b>	7,800	500
COD emissions (metric tons)	<b>900</b>	870	30
Dust emissions (metric tons)	<b>220</b>	160	60
Emissions of substances covered under Pollutant Release and Transfer Register Law (metric tons)	<b>470</b>	510	-40
Waste material generated (thousand metric tons)	<b>500</b>	530	-30
Final amount of waste material treated (thousand metric tons)	<b>1.8</b>	1.1	0.7

## ECONOMIC BENEFITS

(Billions of Yen)

		FY 2010	FY 2009
Income	Contract recycling of industrial waste from outside Tosoh and sale of nonconforming products	<b>0.5</b>	0.5
Cost savings	Energy conservation	<b>2.4</b>	2.2
	Cost reductions in waste treatment through resource conservation and recycling	<b>4.3</b>	5.4
<b>Total</b>		<b>7.1</b>	8.1

## COST-BENEFIT ACCOUNTING FOR ENVIRONMENTAL PROTECTION

We undertake environmental cost-benefit accounting in accordance with the 2005 edition of the *Environmental Accounting Guidelines* established by Japan's Ministry of the Environment. In regard to items not covered by those guidelines, we employ our own assumptions in making the calculations. The results presented 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.

## Global Commitment

### Accreditation and training

By gaining ISO accreditation at our facilities, we assure customers of our products and the communities where those products are made that we

operate in accordance with the highest national and global expectations for safety and quality. This description of our Responsible Care activities (pages 48 to 74) centers on initiatives at the parent company. In the same spirit, we have earned the ISO 9001 and 14001

certifications at scores of subsidiaries and affiliates worldwide. The ISO 9001 regimen for quality management and the ISO 14001 regimen for environmental management are global benchmarks for attainment in sustainability.

### STATUS OF ISO CERTIFICATION

Company name	Location
Japan ISO 9001	
Tosoh Corporation	Nanyo Complex, Yokkaichi Complex
Tosoh SGM Corporation	Nanyo Complex
Tosoh Hyuga Corporation	Hyuga
Tosoh Logistics Corporation	Entire company
Tosoh Speciality Materials Corporation	Entire company
Tosoh Finechem Corporation	Nanyo Complex
Tosoh Quartz Corporation	Entire company
Tosoh Silica Corporation	Nanyo Complex
Tosoh F-Tech, Inc.	Nanyo Complex
Tosoh Organic Chemical Co., Ltd.	Entire company
Tosoh AIA, Inc.	Toyama
Tosoh Zeolum, Inc.	Toyama
Tosoh Techno-System, Inc.	Entire company
Tosoh Hi-Tec, Inc.	Entire company
Tosoh Analysis and Research Center Co., Ltd.	Nanyo Complex, Yokkaichi Complex, Yamagata
Nippon Polyurethane Industry Co., Ltd.	Nanyo Complex
Organo Corporation	Plant Operations Department, Tsukuba, Functional Products Division, OPS
Taiyo Vinyl Corporation	Yokkaichi Complex
Tohoku Tosoh Chemical Co., Ltd.	Sakata
Taiheiyō Chemical Products Corp.	Entire company
Plas-Tech Corporation	Nabari, Tsukuba
Tohoku Denki Tekko Co., Ltd.	Entire company
Rinkagaku Kogyo Co., Ltd.	Toyama

Company name	Location
Japan ISO 14001	
Tosoh Corporation	Nanyo Complex, Yokkaichi Complex
Tosoh SGM Corporation	Nanyo Complex
Tosoh Hyuga Corporation	Hyuga
Tosoh Speciality Materials Corporation	Entire company
Tosoh Plant Service Corporation	Nanyo Complex, Yokkaichi Complex
Tosoh Finechem Corporation	Nanyo Complex
Tosoh Quartz Corporation	Entire company
Tosoh Silica Corporation	Nanyo Complex
Tosoh F-Tech, Inc.	Nanyo Complex
Tosoh Organic Chemical Co., Ltd.	Nanyo Complex
Tosoh Information Systems Corporation	Nanyo Complex, Yokkaichi Complex
Tosoh General Service Co., Ltd.	Nanyo Complex, Yokkaichi Complex
Tosoh Analysis and Research Center Co., Ltd.	Nanyo Complex, Yokkaichi Complex
Nippon Polyurethane Industry Co., Ltd.	Nanyo Complex
Organo Corporation	Plant Operations Department, Tsukuba
Taiyo Vinyl Corporation	Yokkaichi Complex
Sankyo Kasei Industry Corporation	Entire company
Rinkagaku Kogyo Co., Ltd.	Toyama
Kasumi Kyodo Jigyo Co., Ltd.	Entire company
Eco-Techno Corporation	Nanyo Complex
Taiheiyō Chemical Products Corp.	Entire Company

Company name	Location
International ISO 9001	
Tosoh Europe N.V.	Belgium
Tosoh Hellas A.I.C.	Greece
Tosoh SMD, Inc.	USA
Tosoh Quartz, Inc.	USA
Tosoh Bioscience, Inc.	USA
Tosoh SMD Korea, Ltd.	South Korea
Tosoh Bioscience GmbH	Germany
Tosoh Quartz, Inc.	UK
Philippine Resins Industries, Inc.	Philippines
Delamine B.V.	Netherlands
International ISO 14001	
Tosoh SMD, Inc.	USA
Delamine B.V.	Netherlands
Japan ISO 13485*	
Tosoh Corporation	Bioscience Division
Tosoh AIA, Inc.	Toyama
Tosoh Techno-System, Inc.	Entire company
Tosoh Hi-Tec, Inc.	Entire company

\*ISO 13485 applies to medical devices and products and, along with ISO 9001, is intended to ensure product quality

## Corporate Governance

Corporate ethics furnish the framework for robust corporate governance that optimizes transparency, compliance, business performance, and operational efficiency.

### Management Reporting

Tosoh's 16-member Board of Directors meets monthly to decide matters related to business operations and monitors managers with operational responsibilities. The Executive Committee, comprising the chairman, the president, and senior managing directors, meets weekly for expeditious decision making on business proposals. And the Management Reporting Meeting provides background information to the president concerning operating conditions and pending decisions for individual business units.

### Auditors' Committee and Auditing Section

The Auditors' Committee—of two internal and two external auditors—monitors Tosoh's accounting and the behavior and performance of Tosoh's Board of Directors. Neither external director has significant business dealings with or investments in Tosoh.

The Auditors' Committee Office assists the corporate auditors, and outside accounting auditors provide third-party verification of Tosoh's finances.

The Auditing Section conducts operational audits of business units and group companies and reports to the president.

### Other Governance Committees

Additional committees handle specific aspects of corporate governance, including the Compliance, Antitrust, Export Management, Internal Control, and Responsible Care committees.

The Compliance Committee identifies external laws and regulations and internal guidelines and monitors the Tosoh Group's compliance with them. It also prepares a manual that outlines the ethical responsibilities of the company and its employees and monitors compliance therewith. Tosoh conducts ongoing training to make employees aware of their responsibilities.

The Antitrust Committee works with Tosoh's Legal and Patent Department to verify that fair business practices as defined by the Antitrust Law of Japan and Tosoh's internal guidelines are followed. The committee provides manuals outlining applicable practices.

In 2006, Japanese legislation established systematic guidelines for corporate internal controls to support accurate and reliable financial reporting. Tosoh's Internal Control Committee fosters groupwide awareness of compliance with these requirements.

The Responsible Care Committee works with the Environment, Safety and Quality Control Department to ensure conformance with conservation and antipollution laws and with internal environmental preservation regulations. The committee publishes an annual *Responsible Care Report* that provides updates on Tosoh's progress in fulfilling its Responsible Care program.



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## Results by Segment

### Specialty Group

Fiscal 2010 net sales for the Specialty Group were ¥252.0 billion (US\$2.7 billion), down 12.3%, from the previous year. The group's percentage of Tosoh's consolidated net sales, however, increased, from 39.2% to 40.1%. The drop in net sales was due to the overall downturn in demand. The group posted operating income of ¥1.5 billion (US\$16.2 million), a ¥2.4 billion improvement stemming from reduced fixed costs and inventory evaluation improvements.

### Organic Chemicals

#### Ethyleneamines and derivatives

During the year under review, demand for ethyleneamines and their derivatives began to recover, particularly in China, and Tosoh introduced price revisions in Asia. We are reinforcing our sales capabilities for ethyleneamines and the derivatives thereof and reconfiguring our production facilities in anticipation of further increases in demand for these products.

Global demand for ethyleneamines is growing 3% annually and 5% a year in Asia. Tosoh, therefore, is investing ¥23 billion to substantially raise its yearly ethyleneamine manufacturing capacity, by 36,000 metric tons in two phases. The company's second-phase expansion of its ethyleneamine operations is slated to come online at the end of fiscal 2011. The new plant will boost Tosoh's ethyleneamine capacity from 79,000 to 89,000 metric tons annually and consolidate the company's position among the world's top ethyleneamine

manufacturers. Tosoh's annual sales of ethyleneamines are projected to exceed ¥30 billion following the expansion.

The plant will produce high amines, for which we expect demand to grow sharply during the next three years, particularly in Asia. We are also preparing for heightened high amine demand by setting up facilities to recycle ethylenediamine (EDA) and diethylenetriamine (DETA). In addition, Tosoh is looking into augmenting its capacity to produce its TEDA and Toyocat catalysts, which it developed for use in polyurethane foam production and heavy metal treatment agents.

#### Bromine and brominated derivatives

Sales of bromine and bromine-based flame retardants declined slightly during fiscal 2010, while fixed costs increased slightly, resulting in losses in this segment. Market prices fell for hydrogen bromide, which we supply to the purified

terephthalic acid (PTA) catalyst market. Toward the end of the period, however, a recovery in demand for bromine and bromine-based flame retardants overall, coupled with supply shortfalls in China, began boosting profitability.

In fiscal 2011, we expect combined sales of products in this segment to rise more than 15%. We also expect fixed costs to remain essentially unchanged, leading to stronger profitability. Tosoh, meanwhile, is working with another company to raise the profitability of its bromine chain. We are in addition pursuing a new bromine production method that should bolster the profitability of our operations in bromine and brominated derivatives.

Among our other expectations for the year ahead is that tight supply and demand and rising raw materials costs for tertiary butyl alcohol (TBA) will push TBA prices upward. We also foresee an increase in prices for deca-brominated diphenyl ether (DBDE), a flame retardant, and we are developing a product that can be used in place of DBDE.

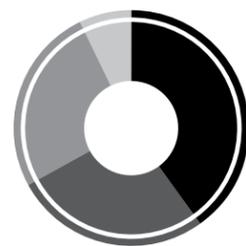
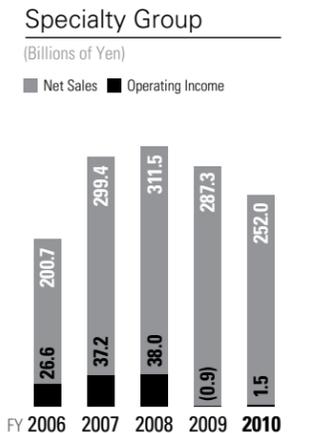
#### Eco-business

Although eco-business sales were down in fiscal year 2010 compared with a year earlier, a faster rate of decline in raw materials costs led to solid profitability in this category. Our sales were lower domestically because of lessened demand for our eco-business products and

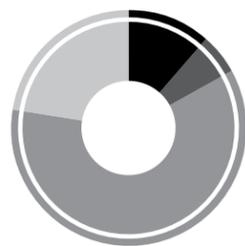
services. A shift in Japan toward the use of eco-cement reduced the call for our heavy metal treatment agents. Our private and industrial customers redoubled their environmental conservation efforts and generated less waste, lowering demand for the agents that we produce to treat incinerator waste. In Japan, demand for these agents is shifting from government entities to the private sector, which is gradually taking over the operation of sanitation facilities. This change is likely to destabilize demand for our incinerator waste treatment products, as well as to force down prices.

In contrast to the diminishing Japanese market for eco-business, the Chinese market presents an outstanding growth opportunity. Only around 15% of trash is incinerated in China, compared with 77% in Japan. But as China's landfills approach capacity, local authorities throughout the country are beginning to view waste incineration as a viable alternative. This should spark a sharp increase in demand for heavy metal treatment agents.

We look forward in the meantime to a major rise in sales in China of our MA-W100 agent to break down VOCs in landfills and groundwater. Tosoh foresees sales of MA-W100 in China soaring sixfold in fiscal 2011, from 100 metric tons in fiscal 2010, and then doubling to 1,200 metric tons by fiscal 2012.



Share of Net Sales  
¥252.0 billion (40.1%)



Share of Operating Income  
¥1.5 billion (11.5%)

■ Specialty Group  
■ Basic Group  
■ Petrochemical Group  
■ Service Group

Other growth markets in China and elsewhere include for our piperazine-based agents, to which many manufacturers are shifting for environmental reasons. Also, the decision to ban or phase out hydrofluorocarbon solvents offers growth potential for Tosoh's high-precision cleaning products.

#### Methylene diphenyl diisocyanate

In fiscal 2010, NPU, which supplies MDI to polyurethane manufacturers in Japan and other Asian nations, contributed ¥76.6 billion (US\$22.8 million) to Tosoh's consolidated net sales. This compares with ¥80.5 billion in fiscal 2009.

A recent expansion doubled NPU's MDI production capacity to 400,000 metric tons per year. NPU, however, used only a portion of that capacity during the year under review owing to a temporary global oversupply of MDI. For the same reason, NPU was unable to pass on increases in raw materials costs. Production downtime caused by plant trouble compounded the unfavorable business situation at NPU.

Fortunately, expanding global demand for MDI will narrow the gap between supply and demand and absorb the full production capacity increase that went online at NPU in fiscal 2009. In fiscal 2010, however, business conditions resulted in lower-than-expected sales at NPU and an operating loss that was substantially larger than

forecast. A combination of heightened sales and planned cost reductions is expected to reduce NPU's operating loss in fiscal 2011.

## Specialty Materials

### Zirconia and zeolites

Sales of zirconia and zeolites were down slightly during the year under review, owing mainly to slower sales of end products. We anticipate an upturn in sales in fiscal 2011 as the global economy rebounds. Capital investment in fiscal 2010 reduced our short-term profitability in this segment, but we likewise expect profitability to improve, particularly in line with expanded sales stemming from our expansion of our plant for producing zirconia and zeolites.

In March 2010, Tosoh completed the construction of two plants for the production of high-silica zeolites (HSZ) and of zirconia powder, respectively, at its Yokkaichi Complex, in Mie, Japan. The ¥8 billion (US\$86.0 million) facilities will double Tosoh's zeolite and zirconia powder production and are part of the company's expansion program for specialty materials. Additionally, both plant's capacities can be doubled to match growing demand. The completion of these two plants will serve these two high growth markets where sales are expected to double over the midterm.

The two plants represent Tosoh's first major investment in specialty materials at its Yokkaichi Complex, which previously was dedicated to petrochemical production. Tosoh's existing plants at Nanyo Complex combined with the newly constructed plants at Yokkaichi Complex will better assure stable supply for customers.

### Electrolytic manganese dioxide

Tosoh boasts the world's largest production capacity for electrolytic manganese dioxide (EMD), a basic raw material for the manufacture of primary batteries and for use in the cathodes of secondary, or rechargeable, batteries. Domestic sales of EMD fell slightly in fiscal 2010, but solid overseas performance more than compensated for this downturn.

Tosoh is moving quickly to increase its supply of cathode materials for the growing lithium-ion battery market from its manufacturing facilities in Japan and Greece. Lithium-ion battery technology is attracting considerable attention globally as a means of reducing CO<sub>2</sub> emissions, and the lithium-ion battery market is expected to grow substantially, particularly for vehicle applications. The company supplies the high-purity EMD that is used in the manufacture of cathode materials for those batteries. By adjusting the electrolysis conditions, EMD properties can be modified to meet specifications for lithium-ion battery material manufacturers.

The worldwide automotive industry is expected in fiscal 2011 and beyond to launch numerous hybrid and electric vehicles as it shifts from petroleum-fueled to battery-powered automobiles. Hybrid vehicles will carry from 5 kilograms to 10 kilograms of EMD in their batteries, whereas electric vehicles will carry approximately 50–100 kilograms of EMD in their almost exclusively lithium-ion batteries. The vehicle market for materials for use in lithium-ion batteries is expected to grow in value to approximately ¥2.0 trillion by 2014.

## Electronic Materials

### Thin film and quartz

The fiscal 2010 decrease in sales for the Electronics Materials Division was less than expected. Sales of products for photovoltaic (PV) cells, a key market for the division, suffered amid the global economic recession and from decisions by European countries to end PV subsidies. However, leading manufacturers in the semiconductor industry, one of the division's main markets, signaled an upturn in the "silicon cycle" with capital investments that meant sales for Tosoh. Also, sales of products that use our thin film products, such as FPDs, continued to grow. We look forward to expansion in each of these markets in fiscal 2011 and beyond.

Given that the silicon cycle appears to be trending upward, we anticipate demand will rise for our quartz products and thin films for the next several years. Global demand for FPDs, meanwhile, also is expected to continue rising for the foreseeable future. Likewise, the future is bright for the PV industry. Despite the setbacks of fiscal 2010, we expect ongoing environmental considerations to continue boosting demand for solar power as a hydrocarbon alternative.

Recent developments for Tosoh in electronic materials include cylindrical targets. Cylindrical targets have experienced rising demand as a result of growth in the markets for notebook computers and for liquid crystal display devices for appliances and PV applications. Tosoh leverages its expertise in molding technology, in sintering technology developed through its work in ceramics, and in thin film analysis technology to perfect its cylindrical targets.

## Bioscience

Tosoh's bioscience operations comprise four main product lines: separation products, clinical high-performance liquid chromatography (HPLC) systems, immunodiagnosics, and molecular testing. In fiscal 2010, the Bioscience Division generated the same amount of revenue as in the preceding term.

Immunodiagnosics, which involves testing for infectious diseases, cancer markers, and specific hormones, constitutes a global market of ¥900 billion. Automated immunoassay (AIA) systems, Tosoh's specialty in this field, account for more than half of this figure. The market for AIA analyzers enjoys steady growth in Japan, the United States, and Europe. During the past several years, the Chinese market has posted annual growth of more than 15%, and India's market expansion has been even more impressive, at more than 20% during each of the past three years. Tosoh supplies AIA analyzers and their reagents throughout the world.

In Japan, the market for brain natriuretic peptide (BNP) products continued to grow, accompanied by steady sales of reagents. In particular, our newly launched AIA-900 model is expected to deliver solid results. In Europe, we maintained sales by upgrading our AIA-21 and AIA-1800 customers to our

AIA-2000 model. In the United States, we added testing categories to our AIA system capabilities, such as for RBC-Fol and HbA1c, and we strove to cultivate customers in Mexico and South America.

Sales of AIA systems in China, meanwhile, reflected the growth of that market and were robust. We accelerated our efforts to acquire customers in China's urban areas. In India, we sought to establish our market presence in AIA systems with an agency relationship.

We maintained our leadership position in Japan's market for gel permeation chromatography (GPC) systems, but demand for these products was severely affected in fiscal 2010 by the economic downturn. Overseas, we have begun direct sales of GPC systems to boost sales and to raise awareness of our brand.

The Bioscience Division's sales of Tosoh's ion chromatography analyzers and columns doubled during the year in Japan. In China, Tosoh conducted seminars and workshops to cultivate an understanding of these and its bioscience products in general.

In July 2009, the Bioscience Division introduced a compact HPLC system in Japan, and it has pursued aggressive, demonstration-based sales efforts for the product ever since. The division also expanded one of Tosoh's product lines of octadecylsilane (ODS) columns

from 24 to 96 varieties and is promoting the broadened range of columns by conducting academic seminars.

The division continues to bolster its operations in China. Tosoh (Shanghai) Co., Ltd., is expanding business for bioscience products in the region.

## Water Treatment

Tosoh subsidiary Organo Corporation is a general water treatment engineering company that operates three businesses. Its plant business sells water treatment systems, its solution business maintains and manages installed systems, and its functional product business sells standard products and chemicals.

In fiscal 2010, Organo contributed ¥53.5 billion (US\$575.0 million) to the consolidated net sales of the Tosoh Group, falling from ¥73.1 billion in fiscal 2009. Organo's consolidated operating income amounted to ¥1.8 billion (US\$19.8 million), up from ¥1.2 billion.

Organo's plant business provides ultrapure water production and wastewater treatment systems to operators of thermal and nuclear power stations. These customers, which tend to be quasi-governmental, generate stable sales and profits for Organo. Among purely private-sector customers, however, the situation has grown challenging. The economic downturn has caused consumer

product manufacturers to cut back on capital expenditures, including for water treatment systems.

In Japan, sales of large-scale ultrapure water production systems to customers in the electronics industry were down. Sales, though, of environmental and energy-saving equipment were firm, including of municipal water and sewage treatment systems. In response to shifting market conditions, Organo is implementing a strategy that focuses more on industries outside the electronics industry. This involves, specifically, a reduced dependency on pure water production by developing business in wastewater treatment. Organo also is restructuring its lines of functional products and strengthening its chemical and food businesses.

Overseas, Organo's expansion targets stronger business with China, Taiwan, and the countries of Southeast Asia, specifically by building ties with trading companies, manufacturers, and power companies. Organo also is bolstering its business with US-based nuclear power stations.

The company has established an internal business development group to support its objective of aggressive business expansion over the midterm. For fiscal 2011, Organo is aiming for net sales of ¥60.0 billion and operating income of ¥2.5 billion. Toward the achievement of this and other of its aims, the company

is revitalizing its management through technical education programs and reviews of its accounting systems to ensure a reduction in fixed costs.

## Basic Group

Basic Group net sales were ¥169.9 billion (US\$1.8 billion), down 11.8% from the preceding fiscal year. This amounted to 27.0% of consolidated net sales, compared with 26.3% in fiscal 2009. Lower fixed costs and improved inventory evaluations pushed the group into the black on an operating basis. The group recorded operating income of ¥735 million (US\$7.9 million), an improvement of ¥18.2 billion.

## Chlor-alkali

Weakening demand in Japan resulted in lower domestic shipments of caustic soda during the year under review. Caustic soda exports, though, increased. In response to the rising cost of raw materials, the Basic Group corrected its domestic prices for caustic soda products in Japan in fiscal 2009, and those revisions contributed positively to the group's bottom line in fiscal 2010. A downturn in domestic prices toward the end of fiscal 2010, however, will affect the group's sales of caustic soda adversely in fiscal 2011.

Overseas, sluggish economic conditions in the United States resulted in lower demand there for caustic soda, creating a surplus that was diverted to Asian markets. The resulting supply glut in Asia caused market prices to fall sharply in the region. We anticipate price corrections, beginning in the first half of fiscal 2011.

To strengthen its global caustic soda production capabilities, Tosoh considered raising its stake in Mabuhay Vinyl Corporation, a Philippines-based manufacturer and seller of soda products,

to 94.24% in fiscal 2010. However, Tosoh's share of Mabuhay remains at 38.36 percent. Mabuhay, which is listed on the Philippine Stock Exchange, began producing caustic soda in 1965. Over the years, the company has raised its capacity to 24,000 metric tons of caustic soda per year to meet growing demand in the Philippines. Tosoh intends to expand these operations further.

Demand for PVC resins was down slightly during the year, largely because of substantially lower US demand. A rebound in demand in Asia, however, particularly from China and India, nearly offset the decline. The uptrend is expected to continue in fiscal 2011, with demand from China growing at a high rate. We are now examining the possibility of doubling capacity at our flagship PVC manufacturer in China, Tosoh (Guangzhou) Chemical Industries. We also anticipate an upswing in US and European demand, boosting PVC sales across the board.

Elsewhere in Asia, demand for VCM is growing and is expected to continue to do so. The Basic Group will capitalize on this growth by raising its production capacity and by maintaining comprehensive production capabilities.

The Chlor-alkali Division, meanwhile, supplies raw materials for NPU's production of MDI, the raw material for polyurethanes. To improve profitability, the division is working to enhance its plant capacity utilization rates and will continue to achieve more cost efficient operations.

In fiscal 2011, we expect demand for cement in Japan to continue declining. Coupled with the low profit margin on exports, we forecast a year-on-year decline in domestic cement sales of between 7% and 8%. The harsh conditions are inducing us to step up our cost reductions and accelerate our recycling efforts.

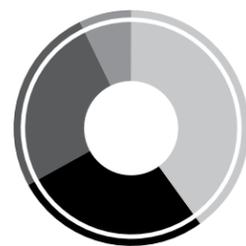
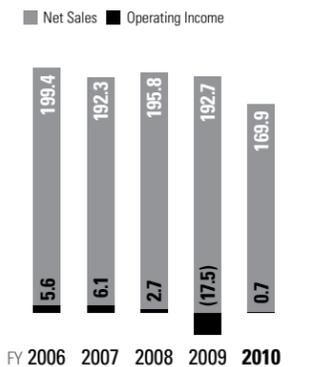
## Cement

Cement shipments decreased in Japan in fiscal 2010. Lackluster economic conditions sapped private-sector demand, and public-sector demand remained stagnant. Domestic unit prices rose slightly, but not enough to offset falling sales volumes. Export shipments increased, particularly to Southeast Asia, but prices fell substantially. As a result, Cement Division sales dropped.

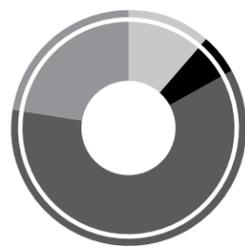
Robust overseas demand for cement is expected to continue in the year ahead, but the profit margin on these sales will remain low—unit prices are approximately half the domestic level. Rising production and freight costs and increasing competition from cement makers in other countries will heighten the competition for Tosoh in export markets.

## Basic Group

(Billions of Yen)



Share of Net Sales  
¥169.9 billion (27.0%)



Share of Operating Income  
¥0.7 billion (5.6%)

■ Basic Group  
■ Petrochemical Group  
■ Service Group  
■ Specialty Group

## Petrochemical Group

The Petrochemical Group's net sales amounted to ¥162.5 billion (US\$1.7 billion), a 20.9% decrease from fiscal 2009. The group's operating income was ¥7.9 billion (US\$84.8 million), up ¥12.7 billion from the loss the group posted in fiscal 2009. As a percentage of Tosoh's consolidated net sales, the Petrochemical Group accounted for 25.8%, compared with 28.0% in the preceding fiscal year. Its operating income constituted 60.5% of Tosoh's consolidated net operating income.

## Olefins

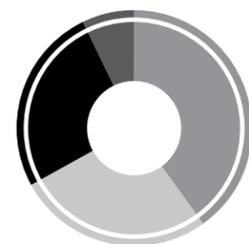
Tosoh's Olefins operations faced a gradual rise in raw materials prices in fiscal 2010. The import price of naphtha rose to ¥45,249 per kiloliter in March 2010, up from ¥28,632 in March 2009. This increase was due partly to tighter supply, stemming from a slowdown of petrochemical plant operations in the Middle East and from other production-related problems. At the same time, continued strong demand from China put upward pressure on prices.

Tosoh continues to diversify the feedstocks it uses in its cracking operations. In addition to less-costly grades of naphtha, the company is increasing its use of liquefied petroleum gas (LPG) and other non-naphtha alternatives. In fiscal 2010, non-naphtha sources accounted for 16% of the raw materials Tosoh used to manufacture olefins.

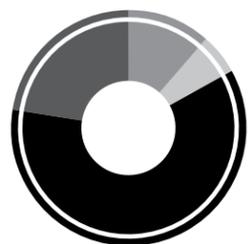
Tosoh's extensive cracking operations produce 500,000 metric tons, or approximately half, of the ethylene it uses to manufacture VCM and polyethylene.

The company maintains steady cracker production, flexibly adjusting its ethylene import volume as demand dictates.

Ethylene shipments decreased, whereas propylene shipments remained the same during the year as demand for derivatives failed to achieve a full-fledged recovery. Conversely, cumene shipments increased, largely because of the enhancements to production capacity that we implemented in fiscal 2009. Also contributing to the rise in cumene shipments was the fact that fiscal 2010 falls between our biennial production plant maintenance shutdown.



Share of Net Sales  
¥162.5 billion (25.9%)



Share of Operating Income  
¥7.9 billion (60.6%)

■ Petrochemical Group  
■ Service Group  
■ Specialty Group  
■ Basic Group

## Polymers

Despite higher sales volumes, Polymers Division profits fell in fiscal 2010, mostly because price increases lagged a steady rise in raw materials costs. In February 2010, Tosoh revised upward its prices for polyethylene resins to be shipped on and after February 22, 2010. The new prices applied to all LDPE, LLDPE, EVA, and high-density polyethylene products. However, because the hikes occurred late in the fiscal year they did not contribute to the division's profitability in fiscal 2010.

LLDPE and HDPE shipments increased during the year, prompted by a rise in exports to meet recovering demand in the Chinese market. Tosoh, however, expects demand for these products to become increasingly competitive from mid-2010 as plants in China and the Middle East go online. So Tosoh is instead specializing in higher-value-added markets, such as the IT, medical, and food product markets. New IT applications for polyethylene (PE) and EVA include masking films and membranes for solar cells and sophisticated laminate products, in which Tosoh holds a major share of the Japanese market.

Tosoh is the world's only manufacturer of saponified EVA (Melthene), an adhesive polymer that adheres well to most substrates without the use of solvents. Demand continues to grow

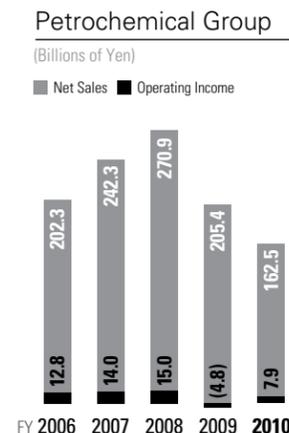
for Melthene's use in food product and electronics packaging, and the Polymers Division is developing Melthene for use in niche markets. Tosoh expects sales and profits from Melthene to rise steadily over the next several years.

Shipments increased for all categories of functional polymers during the year under review, although profits were down year on year because of price declines. Tosoh, though, anticipates increases in sales volumes, sales, and profitability in all categories in upcoming years.

Demand for PVC paste, which is used in building materials, has been affected by a downturn in the housing industry. Nevertheless, PVC paste sales are expected to continue increasing based on the withdrawal of a major competitor from this business and Tosoh's development of new applications for latex products.

Sales of chloroprene rubber expanded in fiscal 2010 despite tight butadiene supplies and the high yen. Tosoh is combating these impediments by developing new sulfur-modified and latex grades of chloroprene rubber, which should boost sales in Japan and other parts of Asia.

During the year, a competitor's withdrawal from the chlorosulphonated polyethylene (CSM) rubber business made Tosoh the world's leading supplier of CSM. To meet the gap in demand



and supply that resulted from that competitor's departure from the market, Tosoh began building a new plant for CSM at its Nanyo Complex in February 2010. This ¥3 billion addition will more than double Tosoh's annual CSM production capacity, from 4,000 metric tons to 8,500 metric tons, all of which the company believes it will sell.

Sales of polyphenylene sulfide (PPS) resin were flat during the year, and losses fell by half. To bring these operations back into the black, Tosoh is developing new grades of PPS resin. We are working with a partner to develop a grade of PPS resin for automotive applications that adds superior metal bonding to the thermal resistance and mechanical strength of conventional PPS. In addition, we are developing a new grade of PPS resin that features the high thermal conductivity required for LED lighting parts.

## Service Group

Service Group sales from trading companies and from logistics and construction subsidiaries declined as a result of the economic slowdown. The group's net sales were ¥44.3 billion (US\$476 million), down 8.0% from fiscal 2009. Operating income was ¥2.9 billion (US\$31.3 million), up 2.3%. The Service Group accounted for 7.0% of Tosoh's consolidated net sales, compared with 6.6% in the previous term, and for 22.3% of its consolidated operating income.

The Service Group's logistics operations, which help meet the Tosoh Group's expansion and transport needs, generated slightly higher sales in fiscal 2010 than forecast and were up from fiscal 2009 levels. In line with the Tosoh Group's medium-term plans, logistics operations are concentrated on four objectives. They focus first on helping individual Tosoh companies and manufacturing groups to reduce manpower requirements and heighten efficiency. Second, they introduce risk management processes and other procedures to improve safety

and quality. Third, they help to 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. Fourth, they provide logistical support to help the Tosoh Group expand its operations overseas.

The analysis and research operations of the Service Group recorded a slight decrease in sales during the year under review. Sales to Tosoh, Tosoh affiliates, and to companies outside

the Tosoh Group all decreased. During the year, these operations analyzed conditions surrounding changes to gas chromatography equipment, prepared manuals, and helped to get new equipment online. They also provided support for the installation of new analysis equipment. A Tosoh affiliate had an outsourcing agreement analyzed in support of preparations for it to internalize their production.

The Service Group predicts that its analysis and research operations will generate steady increases in sales to internal and external customers in the coming years.

Sales from Tosoh's information systems operations were down somewhat in fiscal 2010. During the year under review, these operations helped to consolidate infrastructure by supporting the shift of servers from a Tokyo-area data center

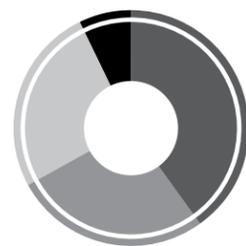
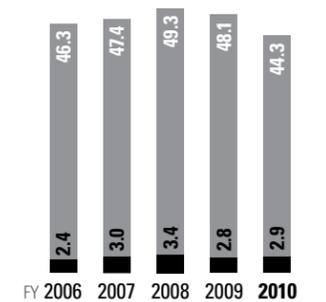
to Yokkaichi; by installing networks, including WAN and backup networks; and by completing the installation of a data archiving system. They also installed software for backbone plant systems at the Nanyo and Yokkaichi complexes and assisted in installing facility security and plant information systems. Looking ahead to fiscal 2011, Tosoh plans to have the Service Group reduce outsourcing costs for information systems 10%, holding down expenses in line with an expected decline in sales. Overall IT fixed costs are expected to decrease 3.4% in fiscal year 2011.

The general services provided by the Service Group encompass personnel management and employee benefit administration and training. Sales from general services fell 20% in fiscal 2010. Those services worked to improve personnel compensation and benefit calculation methods and nearly finished implementing a new management accounting system. They also created an initial system to review and optimize the flow of business operations in keeping with Tosoh's ongoing bid to foster an internal orientation toward profitability for group company service providers. Furthermore, they conducted a questionnaire-based survey and training sessions designed to determine and to enhance compliance awareness.

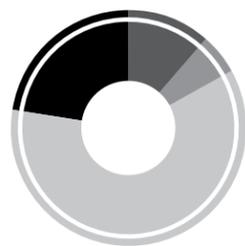
### Service Group

(Billions of Yen)

■ Net Sales ■ Operating Income



Share of Net Sales  
¥44.3 billion (7.0%)



Share of Operating Income  
¥2.9 billion (22.3%)

■ Service Group  
■ Specialty Group  
■ Basic Group  
■ Petrochemical Group

## Fiscal 2010 in Review

### Financial Review

The Japanese economy began to recover slightly in fiscal 2010 on the back of government financial stimulus measures and improvements in the global economy. Domestic demand, however, remained weak and showed little sign of improving. Overall, the economic situation in Japan was sluggish, with low capital investment and high unemployment.

Chemical industry exports from Japan to elsewhere in Asia expanded, centered on China, and chemical company earnings began to improve as production levels started to recover. These gains, however, fell short of full-fledged recovery amid a continuing problematic operating environment.

The average annual prices for naphtha declined from ¥58,925 per kiloliter in fiscal 2009 to ¥41,125 per kiloliter in fiscal 2010, driving down domestic sales prices. Sales prices also eroded in markets outside Japan for PVC resins, for urethane, and for other core products of the Tosoh Group.

### Net Sales

The Tosoh Group's consolidated business performance was affected by the harsh conditions, and as a result Tosoh's consolidated net sales decreased 14.3% during the year, to ¥628.7 billion (US\$6.8 billion). However, lower depreciation and amortization and other fixed costs, coupled with higher inventory evaluations, led to operating income of ¥13.0 billion (US\$140.2 million), up from an operating loss of ¥20.3 billion in fiscal 2009. Income before income taxes and minority interests amounted to ¥7.6 billion (US\$82.1 million), an improvement from the ¥24.8 billion loss in this category in fiscal 2009.

### Operating Expenses and Operating Income

Cost of sales declined 20.1%, to ¥517.8 billion (US\$5.6 billion), reflecting a decline in unit sales. Gross profit improved 30.1%, to ¥111.0 billion (US\$1.2 billion), and the gross profit margin rose to 17.6%, from 11.6% in the previous fiscal year.

Selling, general and administrative expenses declined 7.3%, to ¥97.9 billion (US\$1.1 billion). R&D expenditures fell 3.9%, to ¥13.8 billion (US\$149.0 million), and personnel expenses decreased. Logistics expenses and other items associated with the decline in unit sales fell.

As noted, Tosoh posted operating income of ¥13.0 billion (US\$140.2 million) in fiscal 2010, compared with an operating loss of ¥20.3 billion in the previous fiscal year. Net other expenses, which were ¥4.5 billion in fiscal 2009, totaled ¥5.4 billion (US\$58.0 million) in fiscal 2010. Income before income taxes and minority interests amounted to ¥7.6 billion (US\$82.1 million), compared with a loss of ¥24.8 billion in the previous fiscal year.

year's ¥2.2 billion. Tosoh, however, moved back into the black on a net basis in fiscal 2010, posting net income of ¥6.9 billion (US\$74.1 million), a ¥32.2 billion improvement from the net loss registered in fiscal 2009. These results were closely in line with Tosoh's most recent performance forecast. Net income per share, undiluted, amounted to ¥11.51 (US\$0.12), up from a loss of ¥42.20 in the previous fiscal year. Tosoh maintained its annual dividend per share at ¥6.00 (US\$0.06).

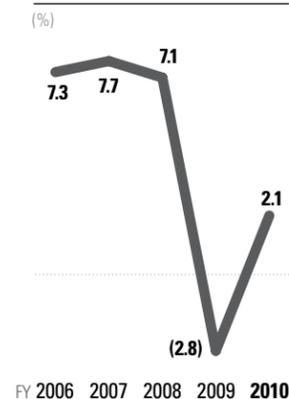
### Net Income

Minority interests in the net losses of subsidiaries totaled ¥0.5 billion (US\$5.6 million), down from the previous fiscal

Operating Income (Loss)



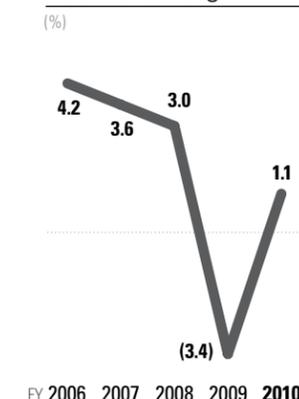
Operating Margin



Net Income (Loss)



Net Profit Margin

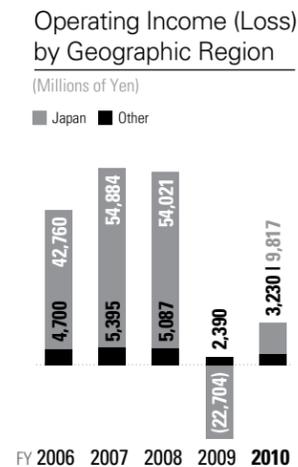
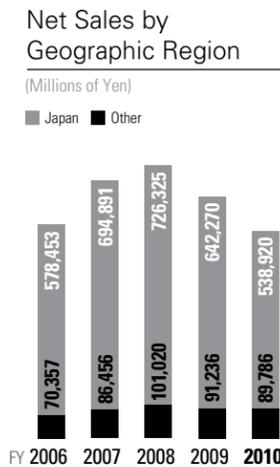


SG&A Expenses



## Performance by Geographic Region

Export sales and sales made outside Japan by overseas subsidiaries were ¥236.9 billion (US\$2.5 billion) in fiscal 2010, representing 37.7% of consolidated net sales, up 4.3 percentage points from fiscal 2009. Of this amount, sales in Asia were ¥173.4 billion (US\$1.9 billion), representing 27.6% of consolidated net sales, up 4.2 percentage points.



## Dividend Policy

Tosoh aims to maintain a balance between internal reserves for R&D and capital expenditures, which are designed to sustain steady high growth, and returns to its shareholders. We intend to provide a stable dividend to our shareholders on a continuous basis, subject to business conditions. In fiscal 2010, Tosoh's annual dividends per share were ¥6 (US\$0.06). As a result, the consolidated payout ratio for the year under review was 52.1%. 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. For its long-term capital requirements, such as capital investment, the company decides on the funding method after determining the investment recovery period and risk. In fiscal 2010, Tosoh financed its capital expenditure and R&D activities primarily from cash provided by operating activities.

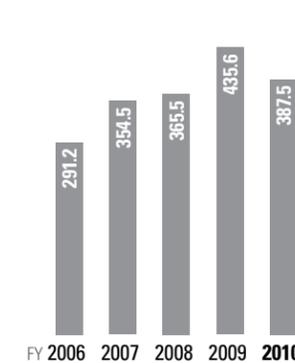
### Assets, liabilities, and net assets

Current assets as of March 31, 2010, were down 0.7% from a year earlier, to ¥354.7 billion (US\$3.8 billion). Although trade receivables were up sharply, inventories were down, as were other current assets. Current liabilities rose 2.3% over the previous fiscal year, to ¥342.3 billion (US\$3.7 billion), owing primarily to higher trade payables. Working capital, therefore, totaled ¥12.4 billion (US\$133.5 million), compared with ¥22.7 billion a year earlier. The current ratio was 1.04 times, down slightly from the fiscal 2009 level.

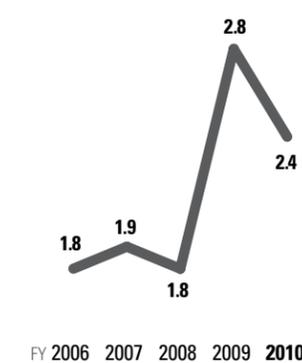
Property, plant and equipment fell 6.1%, to ¥302.7 billion (US\$3.3 billion), mainly as a result of a decrease in machinery and equipment, reflecting a tightening of capital investments. This decline was the principal factor behind a 3.0% decrease in total assets from a year earlier, to ¥739.7 billion (US\$7.9 billion).

Interest-bearing debt was ¥387.5 billion (US\$4.2 billion) as of March 31, 2010, down from ¥435.6 billion at the previous fiscal year-end. In addition, Tosoh supplemented internal capital resources with the net proceeds from long-term debt to fund investment in several projects, primarily the capacity expansions discussed earlier.

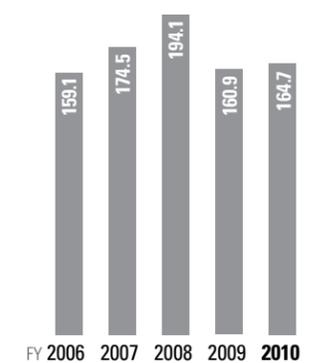
**Interest-Bearing Debt**  
(Billions of Yen)



**Debt-to-Equity Ratio**  
(Times)



**Total Shareholders' Equity**  
(Billions of Yen)



Total shareholders' equity rose 2.4% year on year, to ¥164.7 billion (US\$1.8 billion), mainly because of a 4.2% rise in retained earnings, to ¥95.1 billion (US\$1.0 billion). Net unrealized gains on securities rose 12-fold, ballooning from ¥0.3 million in fiscal 2009 to ¥3.4 billion (US\$37.0 million) in fiscal 2010, in line with resurgent stock prices. Foreign currency translation adjustments, representing chiefly the effect of exchange rates on the net assets of overseas Tosoh Group companies, reduced net assets ¥6.5 billion (US\$69.5 million), compared with ¥7.0 billion a year earlier. Total net assets grew 2.7% year on year, to ¥190.9 billion (US\$2.1 billion). Net assets per share totaled ¥271.59 (US\$2.92), compared with ¥258.98 a year earlier. Return on average total net assets was 4.3%, and the net asset ratio was 22.0%, compared with 20.3% in fiscal 2009.

## Capital Expenditures and Depreciation

### Cash flows

Net cash provided by operating activities was ¥81.7 billion (US\$878 million), well above the ¥27.1 billion of fiscal 2009. The principal sources of cash were depreciation and amortization and an increase in trade payables. The major use of cash was an increase in trade receivables.

Investing activities absorbed ¥29.2 billion (US\$313.3 million) in cash flows, approximately half of the previous year's figure. The main reasons for the difference included an absence of expenditures for the acquisition of the shares of subsidiaries, which used ¥9.9 billion in fiscal 2009, and lower payments for the purchases of property and equipment, which were down almost by half.

Free cash flow, therefore, turned positive. The excess of cash flows from operating activities over the cash absorbed in investing activities amounted to ¥52.5 billion (US\$564.3 million), compared with negative free cash flow of ¥37.8 billion in fiscal 2009.

Net cash used in financing activities was ¥51.9 billion (US\$557.7 million), compared with ¥67.6 billion provided by these activities in the previous year. The main reasons for this change were a ¥10.6 billion (US\$113.9 million) net decrease in short-term borrowings, compared with a net increase of ¥35.1 billion in fiscal 2009, and sharply lower proceeds from short-term borrowings. Cash and cash equivalents on March 31, 2010, were ¥56.9 billion (US\$611.7 million), up 1.8% from one year earlier.

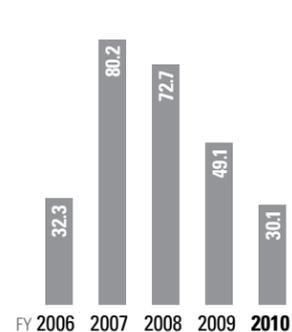
## Projections for Fiscal 2011

Tosoh projects higher profitability in fiscal 2011. We anticipate consolidated net income of ¥11 billion and operating income of ¥29 billion on a 14.5% increase in net sales, to ¥720 billion.

In preparing these sales and earnings projections for fiscal 2011, Tosoh's management has assumed an average exchange rate of ¥90 to the US dollar, compared with ¥100 in fiscal 2010. Management has also assumed an average naphtha cost—a benchmark of raw material costs in the chemical industry—of ¥50,000 per kiloliter in Japan, compared with ¥35,000 in fiscal 2010.

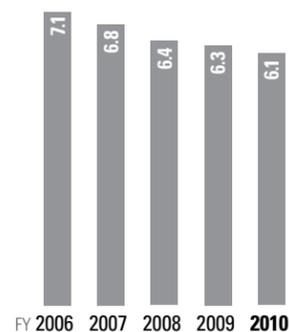
Capital Expenditures

(Billions of Yen)



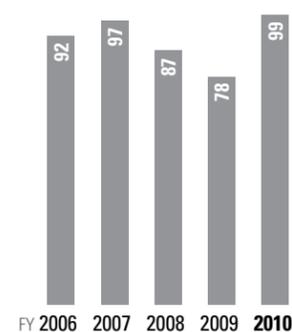
Inventory Turnover

(Days)



Collection Period

(Days)



# Tosoh Corporation

## Consolidated Balance Sheets

As at March 31, 2010 and 2009

	Millions of Yen		Thousands of US Dollars (Note 1)
	2010	2009	2010
<b>ASSETS</b>			
<b>Current assets:</b>			
Cash and cash equivalents (Notes 6 and 10)	¥ 56,916	¥ 55,913	\$ 611,737
Marketable securities (Notes 4 and 10)	8	12	86
Trade receivables (Notes 6 and 10)	170,807	155,918	1,835,845
Inventories (Note 3)	102,557	116,864	1,102,289
Deferred tax assets (Note 11)	10,953	10,285	117,724
Other current assets	14,127	18,826	151,838
Allowance for doubtful accounts	(649)	(602)	(6,976)
Total current assets	354,719	357,216	3,812,543
<b>Investments:</b>			
Investment securities (Notes 4 and 10)	25,884	20,821	278,203
Investments in affiliates (Notes 4 and 10)	17,640	18,631	189,596
Long-term loans receivable (Note 10)	533	660	5,729
Other	22,757	22,615	244,594
Allowance for doubtful accounts	(844)	(751)	(9,072)
Total investments	65,970	61,976	709,050
<b>Property, plant and equipment—net</b> (Notes 5 and 6)	302,749	322,252	3,253,966
<b>Other assets:</b>			
Deferred tax assets (Note 11)	9,310	10,021	100,064
Intangibles	6,911	11,331	74,280
Total other assets	16,221	21,352	174,344
<b>Total assets</b>	¥ 739,659	¥ 762,796	\$ 7,949,903

The accompanying notes are an integral part of these statements.

	Millions of Yen		Thousands of US Dollars (Note 1)
	2010	2009	2010
<b>LIABILITIES AND NET ASSETS</b>			
<b>Current liabilities:</b>			
Short-term bank loans (Notes 6 and 10)	¥ 160,698	¥ 171,038	\$ 1,727,193
Current maturities of long-term debt (Notes 6 and 10)	48,752	52,332	523,990
Trade payables (Note 10)	86,969	71,752	934,748
Income taxes payable	2,886	2,689	31,019
Deferred tax liabilities (Note 11)	1	—	11
Other current liabilities (Note 10)	42,996	36,677	462,123
Total current liabilities	342,302	334,488	3,679,084
<b>Long-term liabilities:</b>			
Long-term debt, less current maturities (Notes 6 and 10)	178,079	212,194	1,914,005
Retirement and severance benefits (Note 7)	18,703	18,911	201,021
Retirement benefits for directors and corporate auditors	470	614	5,052
Deferred tax liabilities (Note 11)	3,213	3,685	34,534
Provision for losses on dissolution of business	3,317	3,681	35,651
Other long-term liabilities (Note 10)	2,676	3,342	28,761
Total long-term liabilities	206,458	242,427	2,219,024
Total liabilities	548,760	576,915	5,898,108
<b>Contingent liabilities</b> (Note 8)			
<b>Shareholders' equity:</b>			
Common stock:			
Authorized—1,800,000,000 shares;			
Issued—601,161,912 shares	40,634	40,634	436,737
Capital surplus	30,062	30,062	323,108
Retained earnings	95,077	91,205	1,021,894
Treasury stock, 2,824,346 shares in 2010 and 2,618,530 shares in 2009	(1,030)	(991)	(11,071)
Total shareholders' equity	164,743	160,910	1,770,668
<b>Valuation and translation adjustments:</b>			
Net unrealized gains on securities	3,419	284	36,748
Deferred gains (losses) on hedges	(7)	(13)	(75)
Land revaluation reserve	816	816	8,770
Foreign currency translation adjustments	(6,470)	(6,984)	(69,540)
Total valuation and translation adjustments	(2,242)	(5,897)	(24,097)
<b>Stock acquisition rights</b> (Note 14)	278	217	2,988
<b>Minority interests</b>	28,120	30,651	302,236
Total net assets	190,899	185,881	2,051,795
Total liabilities and net assets	¥ 739,659	¥ 762,796	\$ 7,949,903

# Tosoh Corporation

## Consolidated Statements of Operations

Years ended March 31, 2010 and 2009

	Millions of Yen		Thousands of US Dollars (Note 1)
	2010	2009	2010
<b>Net sales</b> (Note 12)	¥ 628,706	¥ 733,506	\$ 6,757,373
<b>Cost of sales</b>	517,754	648,198	5,564,854
Gross profit	110,952	85,308	1,192,519
<b>Selling, general and administrative expenses</b>	97,905	105,622	1,052,289
Operating income (loss) (Note 12)	13,047	(20,314)	140,230
<b>Other income (expenses):</b>			
Interest and dividend income	756	1,388	8,126
Foreign exchange losses, net	(1,032)	(1,702)	(11,092)
Insurance income	—	4,604	—
Subsidy income	1,352	1,484	14,531
Interest expense	(6,573)	(6,826)	(70,647)
Equity in earnings (losses) of affiliates	1,264	(976)	13,586
Loss on disposal of property, plant and equipment	(826)	(1,231)	(8,878)
Provision for losses on dissolution of business	—	(111)	—
Loss on valuation of investment securities	—	(2,845)	—
Devaluation on goodwill	(1,029)	—	(11,060)
Other, net	681	1,692	7,319
Subtotal	(5,407)	(4,523)	(58,115)
<b>Income (loss) before income taxes and minority interests</b>	7,640	(24,837)	82,115
<b>Income taxes</b> (Note 11):			
Current	3,786	4,027	40,692
Prior periods	—	255	—
Deferred	(2,515)	(1,684)	(27,031)
Subtotal	1,271	2,598	13,661
<b>Minority interests</b>	521	2,173	5,600
<b>Net income (loss)</b>	¥ 6,890	¥ (25,262)	\$ 74,054
<b>Net income per share:</b>			
Net income (loss)—primary	¥ 11.51	¥ (42.20)	\$ 0.12
Net income—diluted	11.50	—	0.12
Cash dividends per share	¥ 6.00	¥ 6.00	\$ 0.06

The accompanying notes are an integral part of these statements.



# Tosoh Corporation

## Consolidated Statements of Cash Flows

Years ended March 31, 2010 and 2009

	Millions of Yen		Thousands of US Dollars (Note 1)
	2010	2009	2010
<b>Cash flows from operating activities:</b>			
Income (loss) before income taxes and minority interests	¥ 7,640	¥ (24,837)	\$ 82,115
Adjustments to reconcile income (loss) before income taxes and minority interests to net cash provided by operating activities:			
Depreciation and amortization	51,983	60,908	558,717
Decrease in retirement and severance benefits	(1,638)	(3,081)	(17,605)
Interest and dividend income	(756)	(1,388)	(8,126)
Interest expense	6,573	6,826	70,647
Equity in (earnings) losses of affiliates	(1,264)	976	(13,586)
Loss on valuation of investment securities	—	2,845	—
Loss on disposal of property, plant and equipment	826	1,231	8,878
(Increase) decrease in trade receivables	(14,632)	37,942	(157,266)
Decrease in inventories	14,758	8,532	158,620
Increase (decrease) in trade payables	15,890	(45,308)	170,787
Other, net	8,646	960	92,928
Subtotal	88,026	45,606	946,109
Interest and dividends received	1,549	2,358	16,649
Interest paid	(6,717)	(6,609)	(72,195)
Income taxes paid	(1,204)	(14,299)	(12,941)
Net cash provided by operating activities	81,654	27,056	877,622
<b>Cash flows from investing activities:</b>			
Payments for purchases of property, plant and equipment	(29,092)	(56,089)	(312,683)
Purchases of investment securities	(194)	(3,830)	(2,085)
Proceeds from sales of investment securities	303	4,925	3,257
Purchases of investment in subsidiaries	—	(9,869)	—
Payments for advances of long-term loans receivable	(2,327)	(4,278)	(25,011)
Proceeds from collections of long-term loans receivable	2,997	3,478	32,212
Other, net	(837)	805	(8,996)
Net cash used in investing activities	(29,150)	(64,858)	(313,306)
<b>Cash flows from financing activities:</b>			
Net increase (decrease) in short-term bank loans	(10,600)	35,139	(113,929)
Proceeds from long-term debt	16,032	96,645	172,313
Repayments of long-term debt	(53,790)	(58,481)	(578,138)
Cash dividends paid	(3,384)	(5,532)	(36,371)
Other, net	(152)	(136)	(1,634)
Net cash provided by (used in) financing activities	(51,894)	67,635	(557,759)
Effect of exchange rate changes on cash and cash equivalents	327	(1,207)	3,514
Net increase in cash and cash equivalents	937	28,626	10,071
<b>Cash and cash equivalents at beginning of year</b>	<b>55,913</b>	<b>27,287</b>	<b>600,957</b>
Increase in cash and cash equivalents resulting from merger of subsidiaries	66	—	709
<b>Cash and cash equivalents at end of year</b>	<b>¥ 56,916</b>	<b>¥ 55,913</b>	<b>\$ 611,737</b>

The accompanying notes are an integral part of these statements.

# Tosoh Corporation

## 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 are prepared in accordance with either International Financial Reporting Standards or U.S. generally accepted accounting principles or "Japanese GAAP", with consolidation adjustments for the specified six items, which are described in "Practical Solution on Unification of Accounting Policies Applied to Foreign Subsidiaries for Consolidated Financial Statements ("PITF No.18")", 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, 2010, which was ¥93.04 to US\$1.00. Those 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 subsidiaries.

## 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 original maturities of three months or less 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. Held-to-maturity debt securities are stated at amortized cost. Equity securities issued by subsidiaries and affiliated companies, 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 held-to-maturity debt securities, equity securities, not on the equity method, issued by unconsolidated subsidiaries and affiliated companies, and available-for-sale securities, judged to be other than temporary, are charged to income.

## FINANCIAL SECTION

### 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 weighted average method. If the profitability of the inventories went down, 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 expense as incurred.

### 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 be transferred to the lessee and whose commencement dates started prior to March 31, 2008, are accounted for in the same manner as operating leases.

### 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 non-consolidated 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 non-employees based on the fair value of the stock option. In the balance sheet, the stock option is presented as Stock acquisition rights as a separate component of net assets until exercised.

### Construction contracts

Effective from the fiscal year ended March 31, 2010, the Company and consolidated domestic subsidiaries adopted a new Accounting Standard for Construction Contracts. Accordingly, when the outcome of individual contracts can be estimated reliably, the domestic companies apply the percentage-of-completion method to work commencing in the year ended March 31, 2010; otherwise, the completed-contract method is applied. The percentage of completion at the end of the reporting period is measured by the proportion of the cost incurred to the estimated total cost.

The effect of this adoption was immaterial on the consolidated statements of operations for the year ended March 31, 2010.

### Net income (loss) per share

Net income (loss) 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.

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NOTE 3—INVENTORIES

Inventories as of March 31, 2010 and 2009 consists of the following:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2010	2009	2010
Finished products	¥ 63,055	¥ 70,490	\$ 677,719
Raw materials and supplies	32,438	37,855	348,646
Work-in-process	7,064	8,519	75,924
<b>Total</b>	<b>¥ 102,557</b>	<b>¥ 116,864</b>	<b>\$ 1,102,289</b>

NOTE 4—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, 2010 and 2009.

(1) Held-to-maturity debt securities:

	Millions of Yen					
	2010			2009		
	Book value	Fair value	Difference	Book value	Fair value	Difference
Securities with fair values exceeding book value	¥ 1	¥ 1	¥ 0	¥ —	¥ —	¥ —
Securities with fair values not exceeding book value	1	1	(0)	8	8	(0)
<b>Total</b>	<b>¥ 2</b>	<b>¥ 2</b>	<b>¥ 0</b>	<b>¥ 8</b>	<b>¥ 8</b>	<b>¥ (0)</b>

	Thousands of US Dollars (Note 1)		
	2010	Fair value	Difference
	Book value	Fair value	Difference
Securities with fair values exceeding book value	\$ 11	\$ 11	\$ 0
Securities with fair values not exceeding book value	11	11	(0)
<b>Total</b>	<b>\$ 22</b>	<b>\$ 22</b>	<b>\$ 0</b>

(2) Available-for-sale securities:

	Millions of Yen					
	2010			2009		
	Acquisition cost	Book (fair) value	Difference	Acquisition cost	Book (fair) value	Difference
Securities with book values exceeding acquisition costs	¥ 9,161	¥ 15,753	¥ 6,592	¥ 4,947	¥ 8,402	¥ 3,455
Securities with book values not exceeding acquisition costs	5,186	4,480	(706)	9,486	6,738	(2,748)
<b>Total</b>	<b>¥ 14,347</b>	<b>¥ 20,233</b>	<b>¥ 5,886</b>	<b>¥ 14,433</b>	<b>¥ 15,140</b>	<b>¥ 707</b>

	Thousands of US Dollars (Note 1)		
	2010	Book (fair) value	Difference
	Acquisition cost	Book (fair) value	Difference
Securities with book values exceeding acquisition costs	\$ 98,463	\$ 169,314	\$ 70,851
Securities with book values not exceeding acquisition costs	55,739	48,152	(7,587)
<b>Total</b>	<b>\$ 154,202</b>	<b>\$ 217,466</b>	<b>\$ 63,264</b>

NOTE 5—PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment as of March 31, 2010 and 2009 consists of the following:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2010	2009	2010
Land	¥ 75,216	¥ 75,215	\$ 808,426
Buildings and structures	197,987	195,141	2,127,977
Machinery and equipment	725,158	716,682	7,794,046
Lease assets	148	101	1,591
Construction in progress	33,845	24,142	363,768
	<b>1,032,354</b>	<b>1,011,281</b>	<b>11,095,808</b>
Less accumulated depreciation	(729,605)	(689,029)	(7,841,842)
<b>Net property, plant and equipment</b>	<b>¥ 302,749</b>	<b>¥ 322,252</b>	<b>\$ 3,253,966</b>

**FINANCIAL SECTION**
**NOTE 6—SHORT-TERM BANK LOANS AND LONG-TERM DEBT**

Short-term bank loans (partially secured) bear interest at weighted average annual rates of 1.10% and 1.41% as of March 31, 2010 and 2009, respectively. Such loans are generally renewable at maturity.

Long-term debt as of March 31, 2010 and 2009 consists of the following:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2010	2009	2010
Loans from banks and other financial institutions, 1.74%, maturing serially through 2023:			
Secured	¥ 7,474	¥ 11,276	\$ 80,331
Unsecured	219,357	253,250	2,357,664
	<b>226,831</b>	<b>264,526</b>	<b>2,437,995</b>
Less current maturities	(48,752)	(52,332)	(523,990)
<b>Total</b>	<b>¥ 178,079</b>	<b>¥ 212,194</b>	<b>\$ 1,914,005</b>

Assets pledged as collateral to secure primarily short-term bank loans and long-term debt as of March 31, 2010 and 2009 are as follows:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2010	2009	2010
Property, plant and equipment	¥ 78,715	¥ 87,367	\$ 846,034
Other	200	231	2,150
<b>Total</b>	<b>¥ 78,915</b>	<b>¥ 87,598</b>	<b>\$ 848,184</b>

The annual maturities of long-term debt as of March 31, 2010 are as follows:

	Millions of Yen	Thousands of US Dollars (Note 1)
As at March 31,		
2011	¥ 48,752	\$ 523,990
2012	47,203	507,341
2013	39,707	426,773
2014	37,334	401,268
2015	19,924	214,145
2016 and thereafter	33,911	364,478
<b>Total</b>	<b>¥ 226,831</b>	<b>\$ 2,437,995</b>

**NOTE 7—RETIREMENT AND SEVERANCE BENEFITS**

The liabilities for retirement and severance benefits at March 31, 2010 and 2009 are as follows:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2010	2009	2010
Projected benefit obligation	¥ 74,865	¥ 77,540	\$ 804,654
Fair value of pension assets	(61,554)	(56,276)	(661,587)
Unfunded benefit obligation	13,311	21,264	143,067
Unrecognized actuarial loss	(8,738)	(15,054)	(93,916)
Net benefit obligation	4,573	6,210	49,151
Prepaid pension cost	14,130	12,701	151,870
<b>Retirement and severance benefits</b>	<b>¥ 18,703</b>	<b>¥ 18,911</b>	<b>\$ 201,021</b>

Retirement benefit costs for the years ended March 31, 2010 and 2009 are as follows:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2010	2009	2010
Service costs	¥ 3,043	¥ 3,118	\$ 32,706
Interest costs on projected benefit obligation	1,648	1,663	17,713
Expected return on pension assets	(1,117)	(1,486)	(12,006)
Amortization of actuarial loss	2,250	1,300	24,184
Recognized prior service credit	—	(12)	—
Other	302	234	3,246
<b>Retirement and severance benefit costs</b>	<b>¥ 6,126</b>	<b>¥ 4,817</b>	<b>\$ 65,843</b>

Notes: 1. Both of the discount rate and the rate of expected return on pension assets used by the Companies are 2.5% for the years ended March 31, 2010 and 2009.

2. 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 8—CONTINGENT LIABILITIES**

Contingent liabilities primarily for loans from banks to unconsolidated subsidiaries and affiliates, which are guaranteed by the Companies, and for notes receivable discounted at banks with recourse as of March 31, 2010, are as follows:

	Millions of Yen	Thousands of US Dollars (Note 1)
Loans guaranteed	¥ 1,286	\$ 13,822
Notes receivable endorsed	98	1,053
<b>Total</b>	<b>¥ 1,384</b>	<b>\$ 14,875</b>

## FINANCIAL SECTION

### NOTE 9—DERIVATIVE FINANCIAL INSTRUMENTS AND HEDGING TRANSACTIONS

Derivative transactions to which hedging accounting is applied as of March 31, 2010, are as follows:

	Millions of Yen		Thousands of US Dollars (Note 1)	
	Contract amount	Fair value	Contract amount	Fair value
Foreign currency forward exchange contracts				
Buying US dollar	¥ 59	¥ 2	\$ 634	\$ 21
Interest rate swaps				
Payment fixation and receipt change	12,859	(*)	138,209	(*)
Payment change and receipt fixation	500	(*)	5,374	(*)

(\*) 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 10).

The fair value of currency swap contracts is based on the quotes provided by financial institutions.

### NOTE 10—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. Companies monitor due dates and balances of them for each individual customer and strive to ensure promptly and reduce collection concerns based on credit risk control rules of each Company.

Securities, consisting of mostly stocks, are exposed to market risks. Regard as listed stocks, Companies refer to market prices every quarter and revise their position continuously taking account of relations to customers that issued the stocks.

Trade payables are exposed to foreign currency risks due to including payables denominated in foreign currencies for materials import, but almost all the balances of them are offset by the balances of receivables denominated in same currencies at all times. Loans payable are used as short-term working capital or long-term capital investment. For a part of them, we fixate interest payments by using interest rate swaps against their interest risks.

A part of consolidated subsidiaries use foreign currency forward exchange contracts in order to hedge against foreign currency risks with receivables and payables denominated in foreign currencies.

As part of execution and control of derivative transaction, Companies follow internal control rules that provide responsibilities and quantitative limits of them and have transactions only with the highest rated banks for reduction in credit risks.

The following tables summarize book values and fair values of financial instruments with available fair values as of March 31, 2010.

	Millions of Yen		
	Book value	Fair value	Difference
Cash and cash equivalents	¥ 56,916	¥ 56,916	¥ —
Trade receivables	170,807	170,807	—
Securities			
Held-to-maturity debt securities	2	2	0
Available-for-sale securities	20,233	20,233	—
Investments in affiliates	10,073	13,795	3,722
Long-term loans receivable	533	533	—
Trade payables	(86,969)	(86,969)	—
Short-term bank loans	(160,698)	(160,698)	—
Long-term debt	(226,831)	(229,268)	(2,437)
Derivatives transaction	2	2	—

	Thousands of US Dollars (Note 1)		
	Book value	Fair value	Difference
Cash and cash equivalents	\$ 611,737	\$ 611,737	\$ —
Trade receivables	1,835,845	1,835,845	—
Securities			
Held-to-maturity debt securities	22	22	0
Available-for-sale securities	217,466	217,466	—
Investments in affiliates	108,265	148,270	40,005
Long-term loans receivable	5,729	5,729	—
Trade payables	(934,748)	(934,748)	—
Short-term bank loans	(1,727,193)	(1,727,193)	—
Long-term debt	(2,437,995)	(2,464,187)	(26,192)
Derivatives transaction	21	21	—

## FINANCIAL SECTION

### Calculation method of fair value of financial instruments

Cash and cash equivalents, trade receivables, trade payables and short-term bank loans

The fair values of these items approximate book values. We deem the book values to be fair values because of their short maturities.

### Securities

The fair values of securities are based on the prices on securities exchanges.

### Long-term loans receivable

The fair values of long-term loans receivable are calculated by discounting the total amount of the principal and interest at the interest rates considered to be applicable to similar loans.

### Long-term debt

The fair values of long-term debt are calculated by discounting the total amount of the principal and interest at the interest rates considered to be applicable to similar debts.

### Derivatives transaction

Refer to Note 9

Financial instruments whose fair values are deemed to be extremely difficult to determine are indicated below, and are not included in "Securities" in fair value information of financial instruments.

	Book Value	
	Millions of Yen	Thousands of US Dollars (Note 1)
Equity securities issued by unconsolidated subsidiaries and affiliated companies	¥ 4,418	\$ 47,485
Non-listed equity securities	5,657	60,802

### Repayment schedule of monetary claims, available-for-sale securities with maturity and bond held to maturity

	Millions of Yen			
	Within 1 year	Over 1 year within 5 years	Over 5 year within 10 years	Over 10 years
Cash and cash equivalents	¥ 56,916	¥ —	¥ —	¥ —
Trade receivables	170,807	—	—	—
Securities				
Held-to-maturity debt securities	1	1	—	—
Available-for-sale securities	7	—	—	—
Long-term loans receivable	20	384	88	61

	Thousands of US Dollars (Note 1)			
	Within 1 year	Over 1 year within 5 years	Over 5 year within 10 years	Over 10 years
Cash and cash equivalents	\$ 611,737	\$ —	\$ —	\$ —
Trade receivables	1,835,845	—	—	—
Securities				
Held-to-maturity debt securities	11	11	—	—
Available-for-sale securities	75	—	—	—
Long-term loans receivable	215	4,127	946	656

### Repayment schedule of lease debt

	Millions of Yen				
	Over 1 year within 2 years	Over 2 year within 3 years	Over 3 year within 4 years	Over 4 year within 5 years	Over 5 years
Lease debt	¥ 68	¥ 51	¥ 30	¥ 17	¥ 48

	Thousands of US Dollars (Note 1)				
	Over 1 year within 2 years	Over 2 year within 3 years	Over 3 year within 4 years	Over 4 year within 5 years	Over 5 years
Lease debt	\$ 731	\$ 548	\$ 322	\$ 183	\$ 516

Refer to Note 6 for schedule of Long-term debt.

Note: Effective from the fiscal year ended March 31, 2010, the Company and its consolidated domestic subsidiaries have adopted a new accounting standard for financial instruments.

## FINANCIAL SECTION

### NOTE 11—INCOME TAXES

The Company and its consolidated domestic subsidiaries are subject to a number of income taxes, which, in the aggregate, indicate a statutory rate in Japan of approximately 40.4% for the years ended March 31, 2010 and 2009.

The following table summarizes the significant differences between the statutory tax rate and the Companies' effective tax rate for financial statement purposes for the year ended March 31, 2010.

	March 31, 2010
Statutory tax rate	40.4%
Increase (reduction) in taxes resulting from:	
Equity in (earnings) losses of affiliates	(6.5)
Devaluation on goodwill	9.3
Valuation allowance	109.5
Loss on valuation of investments in subsidiaries	(141.3)
Other	5.2
<b>Effective tax rate</b>	<b>16.6%</b>

The differences between the statutory tax rate and the Companies' effective tax rate for financial statement purposes for the year ended March 31, 2009, were not presented because loss before income taxes and minority interests was recorded.

Significant components of deferred tax assets and liabilities as of March 31, 2010 and 2009 are as follows:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2010	2009	2010
Deferred tax assets:			
Operating loss carryforwards	¥ 28,689	¥ 15,190	\$ 308,351
Unrealized gains on intercompany transactions	4,922	5,153	52,902
Retirement and severance benefits	9,090	9,163	97,700
Impairment loss on fixed assets	1,460	1,531	15,692
Other	10,697	13,009	114,972
<b>Total gross deferred tax assets</b>	<b>54,858</b>	<b>44,046</b>	<b>589,617</b>
Less valuation allowance	(23,314)	(15,441)	(250,580)
<b>Total deferred tax assets</b>	<b>31,544</b>	<b>28,605</b>	<b>339,037</b>
Deferred tax liabilities:			
Reserve for replacement of property, plant and equipment	(2,588)	(2,550)	(27,817)
Net unrealized gains on securities	(2,390)	(327)	(25,688)
Other	(9,517)	(9,107)	(102,289)
<b>Total deferred tax liabilities</b>	<b>(14,495)</b>	<b>(11,984)</b>	<b>(155,794)</b>
<b>Net deferred tax assets</b>	<b>¥ 17,049</b>	<b>¥ 16,621</b>	<b>\$ 183,243</b>

Note: "Net deferred tax assets" above can be classified on the consolidated balance sheet as of March 31, 2010 and 2009 are as follows:

Balance sheet item	Millions of Yen		Thousands of US Dollars (Note 1)
	2010	2009	2010
Current assets	¥ 10,953	¥ 10,285	\$ 117,724
Current liabilities	(1)	—	(11)
Non-current assets	9,310	10,021	100,064
Non-current liabilities	¥ (3,213)	(3,685)	(34,534)
	<b>¥ 17,049</b>	<b>¥ 16,621</b>	<b>\$ 183,243</b>

### NOTE 12—SEGMENT INFORMATION

The operations of the Companies are classified into four business segments: Petrochemical Group, Basic Group, Specialty Group and Service Group.

Operations of the Petrochemical Group include the manufacture and sale of olefins and polymers.

Operations of the Basic Group include the manufacture and sale of caustic soda, vinyl chloride monomer, polyvinyl chloride and cement.

Operations of the Specialty Group include the manufacture and sale of fine chemicals, scientific and diagnostic instruments and systems, water treatment equipment, quartz, specialty materials, metals and high-performance polyurethane.

Operations of the Service Group include transportation, warehousing and construction.

"Operating expenses" used in the following segment information include cost of sales and selling, general and administrative expenses.

Business segment information for the years ended March 31, 2010 and 2009 are as follows:

	Millions of Yen						Consolidated
	Year ended March 31, 2010						
	Petrochemical Group	Basic Group	Specialty Group	Service Group	Total	Elimination and corporate	
Net sales:							
External customers	¥ 162,485	¥ 169,897	¥ 252,038	¥ 44,286	¥ 628,706	¥ —	¥ 628,706
Inter-segment	90,153	71,853	15,509	55,296	232,811	(232,811)	—
Operating expenses	244,747	241,015	266,042	96,666	848,470	(232,811)	615,659
Operating income	¥ 7,891	¥ 735	¥ 1,505	¥ 2,916	¥ 13,047	¥ —	¥ 13,047
Identifiable assets	¥ 115,531	¥ 204,116	¥ 320,288	¥ 45,167	¥ 685,102	¥ 54,557	¥ 739,659
Depreciation and amortization	5,719	19,497	20,794	2,060	48,070	2,629	50,699
Capital expenditures	2,297	4,730	21,527	1,236	29,790	294	30,084

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Millions of Yen							
Year ended March 31, 2009							
	Petrochemical Group	Basic Group	Specialty Group	Service Group	Total	Elimination and corporate	Consolidated
Net sales:							
External customers	¥ 205,367	¥ 192,698	¥ 287,307	¥ 48,134	¥ 733,506	¥ —	¥ 733,506
Inter-segment	112,591	74,722	21,181	68,148	276,642	(276,642)	—
Operating expenses	322,740	284,890	309,399	113,433	1,030,462	(276,642)	753,820
Operating income (loss)	¥ (4,782)	¥ (17,470)	¥ (911)	¥ 2,849	¥ (20,314)	¥ —	¥ (20,314)
Identifiable assets	¥ 110,570	¥ 211,961	¥ 322,397	¥ 45,176	¥ 690,104	¥ 72,692	¥ 762,796
Depreciation and amortization	6,539	25,107	23,182	2,032	56,860	2,554	59,414
Capital expenditures	6,349	10,889	25,441	5,661	48,340	797	49,137

Thousands of US Dollars (Note 1)							
Year ended March 31, 2010							
	Petrochemical Group	Basic Group	Specialty Group	Service Group	Total	Elimination and corporate	Consolidated
Net sales:							
External customers	\$ 1,746,399	\$ 1,826,064	\$ 2,708,921	\$ 475,989	\$ 6,757,373	\$ —	\$ 6,757,373
Inter-segment	968,970	772,281	166,692	594,325	2,502,268	(2,502,268)	—
Operating expenses	2,630,556	2,590,445	2,859,437	1,038,973	9,119,411	(2,502,268)	6,617,143
Operating income	\$ 84,813	\$ 7,900	\$ 16,176	\$ 31,341	\$ 140,230	\$ —	\$ 140,230
Identifiable assets	\$ 1,241,735	\$ 2,193,852	\$ 3,442,476	\$ 485,458	\$ 7,363,521	\$ 586,382	\$ 7,949,903
Depreciation and amortization	61,468	209,555	223,495	22,141	516,659	28,257	544,916
Capital expenditures	24,688	50,838	231,374	13,285	320,185	3,160	323,345

The "Elimination and Corporate" column of "Identifiable assets" in the above table includes corporate assets of ¥93,804 million (\$1,008,212 thousand) and ¥100,198 million for the years ended March 31, 2010 and 2009, respectively, which mainly consist of cash, time deposits, investment securities and assets of administrative departments.

Geographic information for the years ended March 31, 2010 and 2009 are as follows:

Millions of Yen					
Year ended March 31, 2010					
	Japan	Other	Total	Elimination and corporate	Consolidated
Net sales:					
External customers	¥ 538,920	¥ 89,786	¥ 628,706	¥ —	¥ 628,706
Inter-segment	60,254	2,020	62,274	(62,274)	—
Operating expenses	589,357	88,576	677,933	(62,274)	615,659
Operating income	¥ 9,817	¥ 3,230	¥ 13,047	¥ —	¥ 13,047
Identifiable assets	¥ 624,138	¥ 64,216	¥ 688,354	¥ 51,305	¥ 739,659

Millions of Yen					
Year ended March 31, 2009					
	Japan	Other	Total	Elimination and corporate	Consolidated
Net sales:					
External customers	¥ 642,270	¥ 91,236	¥ 733,506	¥ —	¥ 733,506
Inter-segment	56,545	2,966	59,511	(59,511)	—
Operating expenses	721,519	91,812	813,331	(59,511)	753,820
Operating income (loss)	¥ (22,704)	¥ 2,390	¥ (20,314)	¥ —	¥ (20,314)
Identifiable assets	¥ 638,136	¥ 64,984	¥ 703,120	¥ 59,676	¥ 762,796

Thousands of US Dollars (Note 1)					
Year ended March 31, 2010					
	Japan	Other	Total	Elimination and corporate	Consolidated
Net sales:					
External customers	\$ 5,792,347	\$ 965,026	\$ 6,757,373	\$ —	\$ 6,757,373
Inter-segment	647,614	21,711	669,325	(669,325)	—
Operating expenses	6,334,447	952,021	7,286,468	(669,325)	6,617,143
Operating income	\$ 105,514	\$ 34,716	\$ 140,230	\$ —	\$ 140,230
Identifiable assets	\$ 6,708,276	\$ 690,198	\$ 7,398,474	\$ 551,429	\$ 7,949,903

Export sales and sales made outside Japan by overseas subsidiaries are ¥236,881 million (\$2,546,012 thousand) and ¥245,267 million for the years ended March 31, 2010 and 2009, respectively, representing 37.7% and 33.4% of consolidated net sales. For the years ended March 31, 2010 and 2009, such sales in Asia are ¥173,445 million (\$1,864,198 thousand) and ¥171,627 million, representing 27.6% and 23.4%, respectively, of consolidated net sales.

## NOTE 13—RELATED PARTY TRANSACTIONS

Yasushi Matsuda, director of the Company, and his close relatives own the majority of the right to vote of Matsuda

Ironworks Co., Ltd., The transactions with Matsuda Ironworks Co., Ltd., as of March 31, 2010, are as follows:

	Millions of Yen	Thousands of US Dollars (Note 1)
Contract of construction	¥ 210	\$ 2,257

The Company owns 35.9% of outstanding shares of Hodogaya Chemical Co., Ltd., which manufactures and sells inorganic and organic industrial chemicals, dyestuffs, agrochemical

intermediates, and other chemical products. The transactions with Hodogaya Chemical Co., Ltd., as of March 31, 2009, were as follows:

	Millions of Yen
Shares acquisition of Nippon Polyurethane Industry Co., Ltd.	¥ 9,785

## NOTE 14—STOCK OPTION PLANS

At March 31, 2010, the Company had the following stock option plans:

	2009 plan	2008 plan	2007 plan	2006 plan
Date of grant	July 18, 2009	July 19, 2008	July 18, 2007	September 27, 2006
Grantees	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
Number of shares granted	361,206	201,125	121,379	181,463
Exercise price (yen)	¥1	¥1	¥1	¥1
Exercise price (US dollars) (Note 1)	\$0.01	\$0.01	\$0.01	\$0.01
Exercisable period	July 19, 2009– July 18, 2034	July 20, 2008– July 19, 2033	July 19, 2007– July 18, 2032	September 28, 2006– September 27, 2031
Fair value at the date of grant (yen)	¥225	¥400	¥637	¥414
Fair value (US dollars) (Note 1)	\$2.42	\$4.07	\$6.36	\$3.51

## NOTE 15—SUBSEQUENT EVENTS

At the meeting of the Company's board of directors held on May 11, 2010, retained earnings of the Company as of March 31, 2010, are appropriated as follows:

	Millions of Yen	Thousands of US Dollars (Note 1)
Year-end cash dividends (¥3.00 per share)	¥1,798	\$19,325

## Independent Auditors' Report

To the Shareholders and the Board of Directors of Tosoh Corporation:

We have audited the accompanying consolidated balance sheets of Tosoh Corporation and consolidated subsidiaries as of March 31, 2010 and 2009, and the related consolidated statements of operations, changes in net assets and cash flows for the years then ended expressed in Japanese yen. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to independently 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 plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Tosoh Corporation and subsidiaries as of March 31, 2010 and 2009, and the consolidated results of their operations and their cash flows for the years then ended, in conformity with accounting principles generally accepted in Japan.

The US dollar amounts in the accompanying consolidated financial statements with respect to the year ended March 31, 2010, are presented solely for convenience. Our audit also included the translation of yen amounts into US 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 & Co.

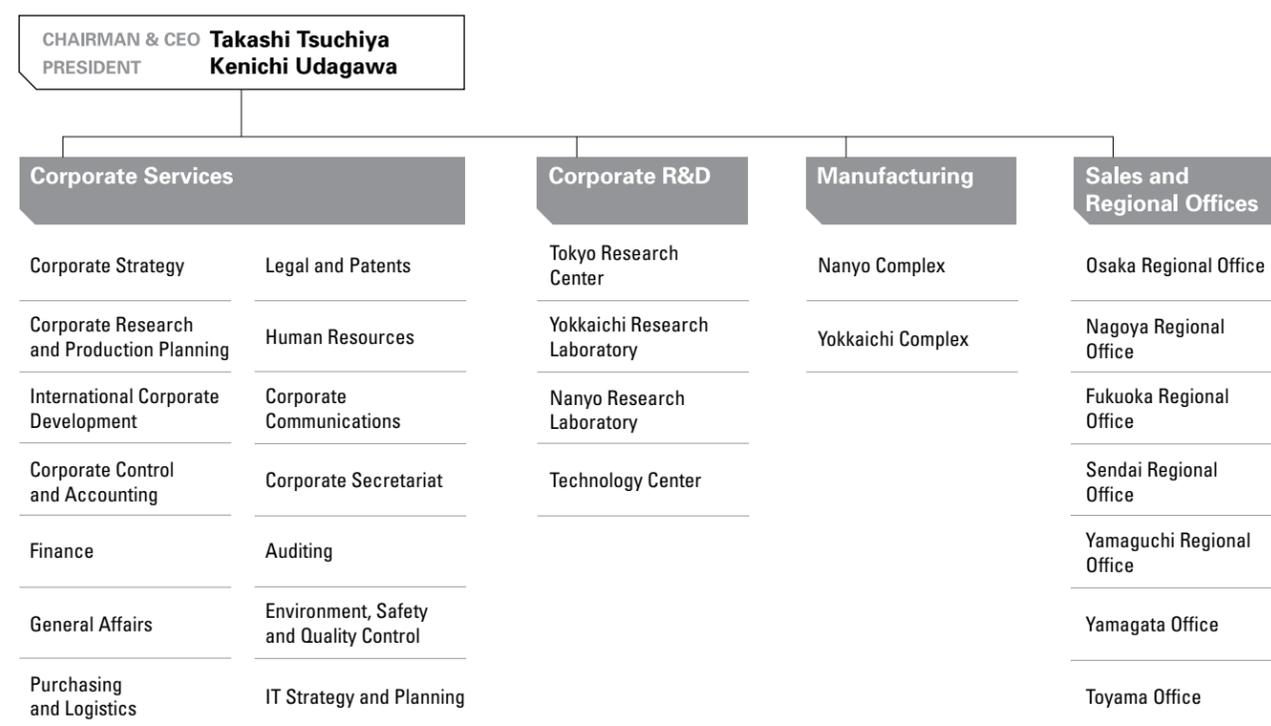
*KPMG AZSA & Co.*

Osaka, Japan  
June 29, 2010

## Organization Chart

As of June 29, 2010

### TOSOH CORPORATION



### BUSINESS DIVISIONS

<b>Olefins</b>	Sales and Marketing
<b>Polymers</b>	Planning and Coordination, Strategy and Planning, Polyethylenes, High-Performance Polymers
<b>Chlor-alkali</b>	Planning and Coordination, Chlor-alkali Sales and Marketing, Fertilizer Sales and Marketing
<b>Cement</b>	Planning and Coordination
<b>Organic Chemicals</b>	Planning and Business Development, Amines, Bromine and Flame Retardants, Eco-business
<b>Bioscience</b>	Planning and Business Development, Sales, Marketing, Reagent Development, System Development, Customer Service, Separation Media Production
<b>Advanced Materials</b>	Planning and Business Development, Electronic Materials, Battery Materials, Ceramics and Zeolites

## Company Data

As of March 31, 2010

### 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

11,089

### COMMON STOCK

Authorized: 1,800,000,000 shares  
Issued: 601,161,912 shares

### NUMBER OF SHAREHOLDERS

53,410

### STOCK EXCHANGE LISTING

Tokyo Stock Exchange  
Ticker Symbol: JP: 4042

### 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 &amp; Co.

### STOCK HELD BY INVESTOR TYPE



### LARGEST SHAREHOLDERS

	Shares held (Thousands of shares)	Percent of total
The Master Trust Bank of Japan, Ltd. (Trust Account)	32,425	5.39
Japan Trustee Services Bank, Ltd. (Trust Account)	30,708	5.10
Mizuho Corporate Bank, Ltd.	21,757	3.61
Mitsui Sumitomo Insurance Co., Ltd.	20,699	3.44
Nippon Life Insurance Company	14,851	2.47
The Norinchukin Bank	12,985	2.15
Aioi Insurance Co., Ltd.	11,020	1.83
The Sumitomo Trust and Banking Co., Ltd.	10,004	1.66
The Yamaguchi Bank, Ltd.	9,944	1.65
The Master Trust Bank of Japan, Ltd. (Retirement Benefit Trust Cosmo Oil Account)	8,975	1.49
<b>Total</b>	<b>173,370</b>	<b>28.84</b>



TOSOH

## **TOSOH CORPORATION**

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