

Chemistry: The science of future inspiration

Under five business lines – Commodity Chemicals, Polymers & Oligomers, Adhesive Materials, Performance Chemicals and Plastics – the Toagosei Group has been recognized the world over for its technological strengths and value-added products.

Founded in 1944, Toagosei is known for its production of instant adhesives for B2C applications worldwide. A company that has prided itself on its ability to move with the times, it has traditionally focused on three distinct pillars: manufacturing basic chemical products until the 1960s; petrochemicals after the 1960s; and functional products to the present day.

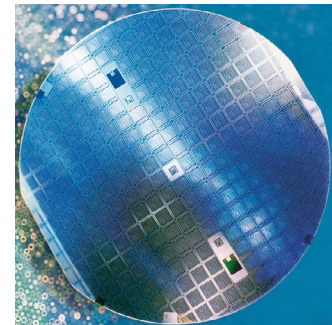
Company president Mikishi Takamura is on hand to outline some of the group's distinctive products. "Toagosei manufactures high-purity liquid hydrogen chloride, which is used in the production of semiconductor chips," he explains, highlighting that the performance chemical is currently exported not only to Japan, but also to Asia and the U.S.A..



Mikishi Takamura, President, Toagosei Co., Ltd.



Toagosei Hydrogen Station Tokushima



Chemicals used in semiconductor production processes

The firm's SQ series, meanwhile, is a coating material with enhanced resistance to radiation and ultraviolet rays, which helps to extend the service life of equipment, a notable example being the hinomaru, or red circle, on Japanese spacecraft.

With the global focus on the U.N.'s Sustainable Development Goals (SDGs), Toagosei has once again shown its willingness to adapt, and is currently working on a fourth pillar of products – (mobility-related, energy-related and healthcare-related products – that will enhance the company's environmental credibility.

Take the electric vehicle (EV) industry, for example. Toagosei products used in EV batteries help optimize not just the quality and



©JAXA/NASA SQ Series

function of the battery but also minimize its environmental impact.

But what of carbon neutrality more generally, and the steps the group is taking to make its processes more environmentally-friendly?

According to Mr. Takamura, the key word here is 'process'. Toagosei is not looking to directly support the production of, say, solar panels, but to enable clients to develop more efficient methods of production. "What we are thinking about," he says, "is leveraging our strengths in chemical products to help users reduce CO₂ emissions in their manufacturing."

Referring to the automotive industry, Mr. Takamura explains how

the company's instant adhesives help improve work efficiency and reduce product weight, while emphasizing that they are also used in a variety of other industrial sectors because of their energy efficiency.

Away from the automotive sector, the blending of innovative new materials such as cellulose nanofibers (CNFs) into plastic-based products means that manufacturers will soon be able to use less plastic in production. CNF may be in the early stages of development, but Mr. Takamura is adamant that they represent the future. Not only do the company's CNF production methods use far less energy than competitors, crucially, as matters stand, Toagosei remains the only firm which currently holds a patent for the process.

In addition to its CNF production, the firm has recently opened a hydrogen station, which is directly connected to the production and supply of hydrogen at a site adjacent to its Tokushima Plant, where hydrogen is produced. One of the company's

stated aims is to work towards realizing a hydrogen society.

Looking to the mid-term, a recent project with Toyota shows that collaboration is a key part of business for Toagosei.

"We are looking for new partners and opportunities abroad," Mr. Takamura confirms, adding that the group prefers to partner with companies using cutting-edge materials such as batteries, semiconductors, and telecommunications equipment to manufacture their products. Co-creation partners, in other words, who know the needs of the market and can directly manufacture the products it demands.



Cellulose nanofiber (CNF)

When pressed on his legacy, Mr. Takamura highlights the importance of expansion. Toagosei is already a highly profitable company, but only by expanding the scale of its business can it secure its market position given the prevailing economic climate.

In this regard, the company's 'fourth pillar' of products takes on a new significance. A key focus in the coming years will be the healthcare industry, and the group has already developed Cell Penetrating Peptide (CPP) as a drug delivery system (DDS) that provides drugs to specific parts of the body such as the brain.

But as long as the group continues to expand its field with "new specialty chemical lines and chemical products with high added value, quality functions and characteristics", growth, it would appear, seems assured.



Aron Alpha has the No. 1 market share in Japan



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