

February 24, 2026
SAKATA INX CORP.

Announcement of the Development of an Innovative Thermal Management Material “Thermorphous™ FX25 (development product)”

~Jointly developed with a Singapore-based startup company, unveiled at BATTERY JAPAN 2026~

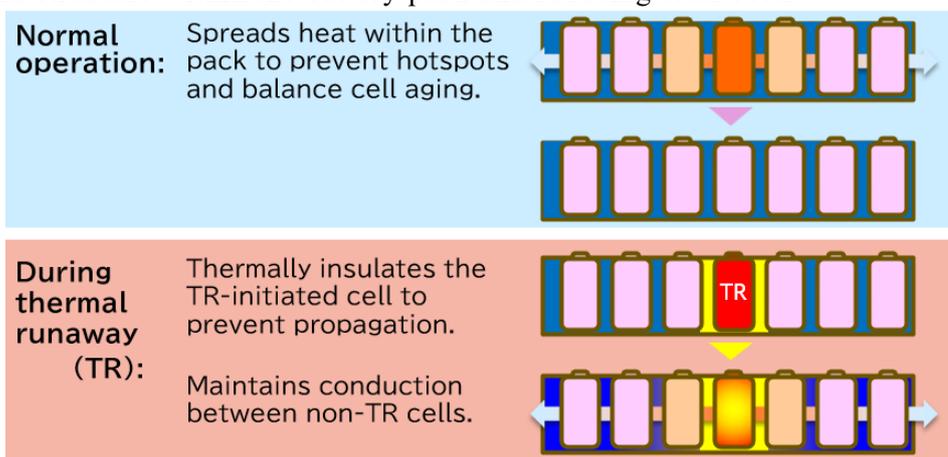
SAKATA INX CORPORATION (Headquarters: Chuo-ku, Osaka City; Yoshiaki Ueno: Representative Director President & CEO; Securities code: 4633; hereinafter referred to as “SAKATA INX”) is pleased to announce that it has developed a next-generation thermal management material, “Thermorphous™ FX25 (development product)” in collaboration with a Singapore-based startup company, Matwerkz Technologies Pte. Ltd. (hereinafter referred to as “Matwerkz Technologies”). This product will be unveiled for the first time at the "BATTERY JAPAN (International exhibition for Rechargeable Battery)" to be held at Tokyo Big Sight from March 17 (Tue) ~ 19 (Thu), 2026.

【Overview】



Thermorphous™ FX25 (development product) is a temperature-responsive thermal management material that is ideal for battery packs for EVs, electric mobility, and standby and uninterruptible power supply units. It exhibits high thermal conductivity at normal operating temperatures, and heat diffusion between battery cells can be expected to

increase battery output performance and long life. On the other hand, at the temperature range where the cell's thermal runaway occurs, the thermal conductivity will sharply drop, and it will exert a heat shielding function. This allows for an advanced safety design where a heat insulating shield would form around the affected cells thus preventing the spread of fire to adjacent cells. This unique performance within a single material enables the realization of both "safety and output performance," which was previously difficult to achieve in the past. It also contributes to simplifying the structure within the battery pack and reducing total costs.



Conceptual illustration for illustrative purposes only; not based on test data and performance is not guaranteed.

Since it comes in the form of a two-component liquid potting agent, it can easily conform to cylindrical, square, and pouch battery cell dimensions. By using molds, it is possible to be molded into three-dimensional shapes such as cell holders and sheets.

A major feature is its ability to fill gaps as small as 1mm or less, making it possible to handle complex three-dimensional structures.

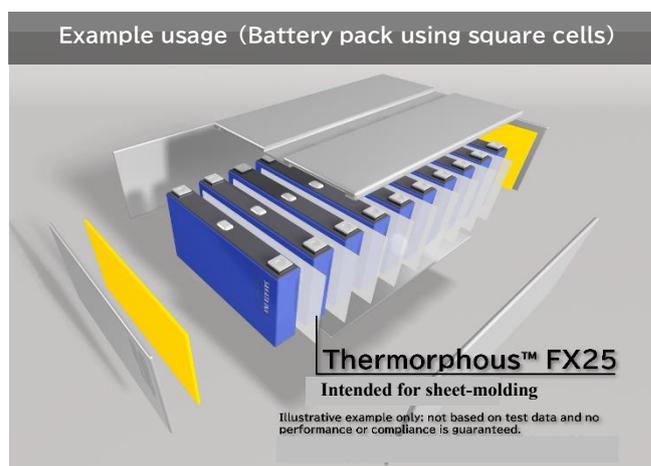
The unique characteristics of Thermorphous™ FX25:

Two-component curing heat dissipation and thermal insulation potting agent

Thermal conductivity (room temperature): 1.0 W/m·K or higher

Thermal conductivity (during thermal runaway): 0.1 W/m·K or lower

Viscosity: 3.2Pa·s (25°C)



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【Background of Joint Development】

In 2023, we invested in Matwerkz Technologies with the aim of streamlining energy storage and operation to realize a society where energy can be safely and securely used. Under the shared vision of both companies, we have been promoting technical collaboration in the field of thermal management. While lithium-ion batteries offer increased output and improved convenience, the number of fire incidents involving battery packs is unfortunately on the rise. The requirement for massive computational processing and extensive usage of high-performance devices due to the proliferation of AI would compound the need for effective thermal management. As thermal management is the foundation for a sustainable society, innovative technological development is essential. Our company actively tackles this key theme and continues to take on challenges to contribute to society. A joint evaluation with one major domestic company is currently underway, and we aim to mass-produce this product in 2027.

【Exhibition Information】

Exhibition name : BATTERY JAPAN (International exhibition for Rechargeable Battery)

Date : March 17 (Tue.) ~ 19 (Thur.) , 2026

Venue : Tokyo Big Sight

Booth Number : S33-1

On the day of the event, Dr. Leong Yew Wei, Founder & CEO of Matwerkz Technologies, will be available at the exhibition booth to introduce the product together with technical staffs from SAKATA INX. This will be a valuable opportunity to exchange opinions on current technical issues and future development possibilities directly with visitors. We look forward to seeing you at our booth.

【Development product to be exhibited】

- Thermorphous™ FX25 (Development product)
- Flexible temperature sensor (Development product)
- Heat-shielding Cocoon (Development product of Matwerkz Technologies)
- Heat-shielding Coating material (Development product of Matwerkz Technologies)

About SAKATA INX CORPORATION

Founded in 1896, SAKATA INX is the world's third largest chemical manufacturer in sales of printing inks, with operations in more than 20 countries and regions worldwide, including Asia, the Americas, and Europe. The company manufactures and sells printing inks used for various packages, beverage cans, and information media, industrial inkjet inks and color toners for digital printing, and image display materials for liquid crystal displays. Under the business theme of “Creation of Visual Communication Technology,” the company aims to “create an information culture that makes people's lives more comfortable” through environmentally-friendly and sustainable products and continues to take on the challenge of entering new fields. (<https://www.inx.co.jp/english/>)

About Matwerkz Technologies Pte. Ltd.

Matwerkz Technologies (Dr. Leong Yew Wei: Founder & CEO) is an advanced material startup company based in Singapore, offering innovative solutions in areas such as thermal management, engineering plastics, bioplastics and others. Through the fusion of materials science and applied technology, it supports the development of sustainable and high-performance products, contributing to diverse industrial sectors such as energy, mobility, electronics, etc. (<https://matwerkz.com>)

Contact

【Customer window】

Corporate R&D Division Development Planning Department

【Special website and Contact form】

<https://www.inx.co.jp/english/product/business/new/electronics/thermorphous/>