JMTC KANSAI UNIVERSITY NEWS RELEASE

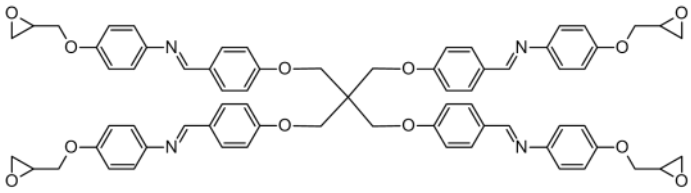
November 19, 2025
Japan Material Technologies Corporation
Kansai University

License Agreement Concluded with Kansai University Regarding Tetrafunctional Epoxy with Mesogenic Structure

Japan Material Technologies Corporation (Head Office: Chuo-ku, Tokyo; President: Koyu Urata;"JMTC") has concluded a license agreement ("the Agreement") with Kansai University ("the University") regarding a tetrafunctional epoxy resin with a mesogenic structure ("the Material").

The Material, developed by Professor Miyuki Harada of the Faculty of Chemistry, Materials and Bioengineering, Kansai University, is a pentaerythritol-type tetrafunctional epoxy resin that contains a rigid mesogenic backbone in its molecular structure. Its cured product exhibits high strength and excellent heat resistance. Notably, it is characterized as a "Tg-free" material, meaning that no distinct glass transition temperature (Tg) is observed. Furthermore, the Material features a lower coefficient of thermal expansion (CTE) and higher thermal conductivity than conventional epoxy resins, making it promising for applications in electronic materials where thermal management is a critical issue—particularly in the field of power semiconductors. JMTC will utilize the exclusive ordinary license obtained through this Agreement to promote early commercialization of the Material by supplying it to resin manufacturers and other users.

<Structure of the Material>



JMTC has been expanding its lineup of thermosetting resins with superior heat resistance and electrical properties, such as difunctional alicyclic epoxy DCPD-DE, trifunctional biphenyl-type epoxy BPTE and trifunctional benzoxazine BTBz. The company is also developing materials that contribute to solving thermal management challenges, such as BNFO which exhibits a negative coefficient of thermal expansion. With the advancement and miniaturization of electronic devices in recent years, the demands for low thermal expansion and high heat resistance have rapidly become sophisticated and diverse. JMTC will continue to address these needs by commercializing innovative material technologies.

JMTC will showcase this Material, along with other JMTC products, at Chemical Material Japan 2025 to be held at Tokyo Big Sight on November 27 (Thu) and 28 (Fri), 2025.
(https://www.chemmate.jp/en)

JMTC has been working to commercialize innovative technologies developed by Japanese companies, universities and research institutes through license-outs and carve-outs. JMTC will continue to contribute to innovation in Japan's materials industry by promoting the commercial application of unused innovative material technologies.

Contact:Inquiry form on our website: https://www.jmtc.co.jp/en/contact/