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Exploring inorganic
microporous membranes:
applications in Sake and
Food industries

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The chemical industry is a significant contributor to CO₂ emissions. As separation processes occupy a significant portion of energy consumption, substituting conventional distillation with membrane separation can drastically reduce the energy utilized by this particular industry.

Inorganic microporous membranes represent a relatively new class of membranes, which accelerated developments starting in the early 2000s. For example, A-type zeolite membrane was commercialized by a Japanese company, named Mitusi-ship engineering, based on the method developed at Yamaguchi University.

In this talk, we will look into the diverse applications and requirements of such membranes. In addition to the history of zeolite membranes, the current state of the art in development of microporous carbon membranes will be shared.