

Nano-sized Zeolite

Applications of Nano-Sized Zeolite **Zeol**

Nano-sized zeolites are materials expected to play a significant role in a variety of markets.

Expanding the Potential of Zeolites through Nanotechnology

Cosmetics and
Healthcare Products



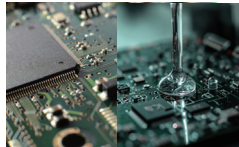
Antibacterial, Thermochromic,
and Slow-Release Properties

Paints and Adhesives



Adsorption of
Gases and Moisture

Sealants



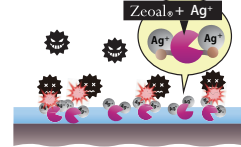
Prevention of Wiring
Corrosion and Cracking

Oral Care Products



Ion Exchange

Antibacterial and
Antiviral Coatings



Thin-Film Formation
and Enhanced Antibacterial Effect

Examples of Transparent Film Applications



Pharmaceutical Packaging
Materials

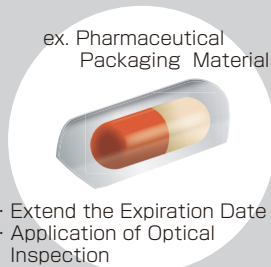


Perovskite Solar Cells

Zeolite's Adsorption Capabilities + High Transparency of **Zeol**

Zeolite works by adsorbing gas and moisture inside the film, thereby preserving the quality of the inclusions. Furthermore, because the particles are nanoscale—smaller than the wavelength of light—they do not cause cloudiness and maintain transparency.

ex. Pharmaceutical
Packaging Materials



- Extend the Expiration Date
- Application of Optical Inspection

1 Functions of Zeolite

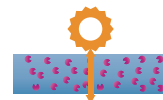


Adsorbs internal gas
and moisture

**Maintaining the Quality
of Inclusions**

2 Functions of Nano-Sized Zeolite

Smaller than the
wavelength of light



Maintain transparency

About Us / Our Mission

Conventional nano-sizing processes have been costly. Nakamura Choukou leveraged a university-developed "grinding and recrystallization" technology and established an innovative manufacturing process through joint development with The University of Tokyo and Osaka Prefecture University (now Osaka Metropolitan University).

This technology enables the low-cost production of nano-sized zeolite.

Zeol Next Co., Ltd. (Subsidiary of Nakamura Choukou Co., Ltd. | Material Science Business)

Representative Director and CEO : Makoto Inoue

Capital: JPY 103 million



- 2015** Began zeolite development with Professor Wakihara (then an associate professor at the University of Tokyo)
- 2019** A-STEP/Japan Science and Technology Agency (JST) Certification of success in the production of zeolite nanoparticles
- 2022** Establishing a manufacturing facility within the Izumi Plant
- 2026.4** Business Transfer from Nakamura Choukou Co., Ltd. to Zeol Next Co., Ltd.

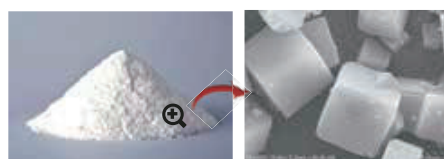
Nano-sized Zeolite

What is Zeolite?

Zeolite is composed of mainly silica (silicon dioxide) and alumina (aluminum oxide), and characterized by a microporous molecular structure.

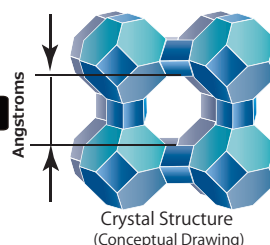
When zeolite spreads, it's a material of the porous structure having innumerable holes like a sponge.

There are such functions as "catalyst", "adsorption", "ion exchange", and we use zeolite in a chemical field, an environmental field and the field of life at various scenes.



Zeolite Particles (Example)

Porous Ceramic Particles
※ 1 Å = 0.1 nm



What Is Nano-sized Zeolite?

Nano-Sized Zeolite "Zeolal." is a next-generation material that delivers enhanced functionality by reducing zeolite particles to the nanoscale, while retaining the fundamental properties of zeolite.

Its exceptionally high surface area enables rapid adsorption, while its nanoscale properties offer potential for applications in transparent materials, sedimentation control, and reduced catalyst coking. Zeolal is expected to open up new possibilities across a wide range of applications.

