



KEMIJSKI INŠTITUT

Vabilo na Preglov kolokvij / Invitation to the Pregl colloquium

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Velika predavalnica Kemijskega inštituta /

Great Lecture Hall

National Institute of Chemistry

Hajdrihova 19, Ljubljana, Slovenia

From a Boiling Stone to the Applicable Minerals in Various Industrial Processes

Natural zeolites, particularly clinoptilolite, is a versatile aluminosilicate mineral highly valued for its porous structure and exceptional ion-exchange capacity, making it essential across numerous industries. Its primary use in adsorption is to remove heavy metals, ammonia, and other pollutants from water, serving as a powerful environmental cleanup agent. For catalysis, it's employed as a heterogeneous catalyst and a support material for active particles in various chemical processes. In medicine and veterinary science, its detoxification properties are leveraged in supplements and animal feed to bind toxins like mycotoxins. In agriculture, clinoptilolite acts as a slow-release nutrient carrier and a soil conditioner, improving the efficiency of nitrogen-based fertilizers. While the raw mineral is not inherently antimicrobial, the modified form—often infused with ions like silver—exhibits strong antibacterial use for the purification and remediation of contaminated water and soil. This mineral's multifaceted applications solidify its role as a key sustainable material.

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Vljudno vabljeni / Kindly invited