Zeolites of Georgia: Mineralogy, Genetic Types and Distribution

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Zeolites are aluminosilicates with a framework structure and represent a widely distributed group of minerals in nature.The zeolite group includes more than 60 minerals, among which the most notable are: analcime, clinoptilolite, natrolite, thomsonite, chabazite, laumontite, stilbite, heulandite, mordenite, phillipsite, erionite, and ferrierite.The structural characteristics of zeolites determine the unique properties of the minerals in this group, such as: adsorption capacity, high degree of hydration and the presence of zeolitic water, ion exchange ability, catalytic properties, and more.Due to these properties, zeolites are actively used in various fields of industry, agriculture, and medicine.

Zeolites are divided into two types: natural and synthetic.This bachelor's thesis discusses the chemical composition, structural features, properties, genetic types, and applications of natural zeolites.In Georgia, minerals of the zeolite group are distributed according to certain patterns, and their major deposits and occurrences are associated with the magmatic-volcanogenic, volcanogenic-sedimentary, and normal sedimentary formations of the Cretaceous, Paleogene, and Neogene ages within young volcanic belts (Skhirtladze, 1997).The paper characterizes the deposits of clinoptilolite-containing tuffs in Dzegvi and Tsedamisi.