

Is halite cubic, or is it isometric?

Donald Kasper 10-30-2021

That bastion of all knowledge, wikipedia declares the crystal system of halite is cubic. Over at mindat, it lists the mineral as isometric, but only shows one dynamically rotating crystal form, cubic. Isometric also includes octahedral and dodecahedral forms. Is this the case for halite? If we go to Trona, CA and get samples of salt and other evaporites on three occasions and get samples from a retailer who sells evaporites and lives in Trona, we get the specimen below from nearby Searles Dry Lake, which is not typically defined as halite, not even in the Trona museum.



What is it? No problem; let us put the crystal in our infrared spectrometer that is set up for reflectance infrared and get a scan on this octahedral crystal. Here it is. This is halite. It forms just one peak at 1240 cm^{-1} infrared. Salts react very little to infrared light. This is very easy to distinguish from the Searles sulfates and carbonates and mixed minerals it is attributed to. The author sees no octahedral halite example photos on mindat of over 800 posted looking over the first two pages, mostly of Searles examples of hopper cubic forms.

