

Energetics of Sedimentary Dolomites

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The mineral dolomite, $\text{CaMg}(\text{CO}_3)_2$, is found in massive layers of ancient sedimentary rock, and yet it is relatively rare in more modern formations. To aid in the understanding of this phenomena, the enthalpies of formation of sedimentary non-stoichiometric dolomite samples have been measured by high temperature oxide melt calorimetry. Previous x-ray diffraction work indicates that dolomites with high concentrations of calcium consist of two coexisting phases. The energetics of these phases with respect to the energetics of stoichiometric dolomite and other calcium-rich dolomite samples will be discussed.