

Quiz-8 (due Mon-18-Feb-2019 at 2.05 pm):

Magnesium sulfate forms crystals with varying amounts of water of crystallization, depending on temperature. These are known as hydrates. The common ones are given in the table below. If the dodecahydrate is to be converted to monohydrate, how much water (in kg) will have to be removed per kg? Express your answer (a) on wet basis per kg of the feed dodecahydrate, (b) on wet basis per kg of the product monohydrate, (c) dry basis per kg of the feed dodecahydrate, and (c) dry basis per kg of the product dodecahydrate.

Form	Name
MgSO_4	Anhydrous magnesium sulfate
$\text{MgSO}_4 \cdot \text{H}_2\text{O}$	Magnesium sulfate monohydrate
$\text{MgSO}_4 \cdot 6 \text{H}_2\text{O}$	Magnesium sulfate hexahydrate
$\text{MgSO}_4 \cdot 7 \text{H}_2\text{O}$	Magnesium sulfate heptahydrate
$\text{MgSO}_4 \cdot 12 \text{H}_2\text{O}$	Magnesium sulfate dodecahydrate