

## Gypsum

**Gypsum:** its soft sulfate mineral composed of calcium sulfate dihydrate, with the chemical formula  $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ . Egypt have a very good quality of gypsum with purity up to 95% or more

Its used in many different application like fertilizer, building material and cement production.....etc.

### Chemical analysis:

#### Grade 1

Item	percent
CaO	32.13
SO <sub>3</sub>	46.12
SiO <sub>2</sub>	0.14
Al <sub>2</sub> O <sub>3</sub> .	0.04
Fe <sub>2</sub> O <sub>3</sub>	0.09
MgO	0.22
K <sub>2</sub> O	0.01
Na <sub>2</sub> O	0.02
TiO <sub>2</sub>	0.01
MnO	0.01
P <sub>2</sub> O <sub>5</sub>	0.01
Cl	0.10
L.O.I	20.91
Purity	95.13

**Grade 2**

**(Purity 89.30%)**

<b>Item</b>	<b>percent</b>
<b>CaO</b>	<b>33.77</b>
<b>SO<sub>3</sub></b>	<b>43.81</b>
<b>SiO<sub>2</sub></b>	<b>0.11</b>
<b>Al<sub>2</sub>O<sub>3</sub>.</b>	<b>0.01</b>
<b>Fe<sub>2</sub>O<sub>3</sub></b>	<b>0.03</b>
<b>MgO</b>	<b>0.68</b>
<b>K<sub>2</sub>O</b>	<b>0.02</b>
<b>Na<sub>2</sub>O</b>	<b>0.03</b>
<b>TiO<sub>2</sub></b>	<b>0.01</b>
<b>MnO</b>	<b>0.01</b>
<b>P<sub>2</sub>O<sub>5</sub></b>	<b>0.01</b>
<b>Cl</b>	<b>0.03</b>
<b>L.O.I</b>	<b>21.11</b>

**Grade 3**

**(Purity 81.46%)**

<b>Item</b>	<b>percent</b>
<b>CaO</b>	<b>37.16</b>
<b>SO<sub>3</sub></b>	<b>39.18</b>
<b>SiO<sub>2</sub></b>	<b>0.17</b>
<b>Al<sub>2</sub>O<sub>3</sub>.</b>	<b>0.03</b>
<b>Fe<sub>2</sub>O<sub>3</sub></b>	<b>0.08</b>
<b>MgO</b>	<b>0.28</b>
<b>K<sub>2</sub>O</b>	<b>0.01</b>
<b>Na<sub>2</sub>O</b>	<b>0.01</b>
<b>TiO<sub>2</sub></b>	<b>0.01</b>
<b>MnO</b>	<b>0.01</b>
<b>P<sub>2</sub>O<sub>5</sub></b>	<b>0.01</b>
<b>Cl</b>	<b>0.11</b>
<b>L.O.I</b>	<b>21.11</b>