

## IRON OXIDE

**Description:** Iron oxides are chemical compounds composed of iron and oxygen. Only a few iron oxides are recognized. They are all black magnetic solids and are generally non-stoichiometric. Their oxyhydroxides, perhaps best known as rust, are a related class of compounds. Electrochemically produced iron oxide (rust) is commonly found in nature and plays significant roles in many geological and biological processes.

- Chemical Name** Ferrous ferric oxide, Iron(II,III) oxide, Magnetite, Black iron oxide, Rust
- Chemical formula** Fe<sub>2</sub>O<sub>3</sub>
- CAS No.** 1309-37-1
- Density** 5,24 g/cm<sup>3</sup>
- Boiling Point** 2,623 °C
- Molecular weight** 159.69 g/mol
- Melting point** 565 °C
- Color** solid black powder
- Odor** Odorless
- Solubility** Insoluble in Water



SPECIFICATION TABLE				ANALYSIS TABLE	
Parameters	Unit	Analysis Results S-1	Unit	Analysis Results E-1	Method
Parametreler	Birim	Analiz Sonuçlar	Birim	Analiz Sonuçlar	Metod
Norm	%	109	%	103,5	
Fe <sub>2</sub> O <sub>3</sub>	%	85,35	%	97,44	
CaO	%	6,39	%	0,06	
ZnO	%	3,52	%	-	
SiO <sub>2</sub>	%	1,55	%	0,28	
MnO	%	0,67	%	0,68	
Al <sub>2</sub> O <sub>3</sub>	%	0,4	%	0,11	
P <sub>2</sub> O <sub>5</sub>	%	0,37	%	0,1	
MgO	%	0,23	%	CuO - 0,08	
Na <sub>2</sub> O	%	0,18	%	-	
SO <sub>3</sub>	%	0,12	%	0,07	
V <sub>2</sub> O <sub>5</sub>	%	0,08	%	-	
K <sub>2</sub> O	%	0,07	%	-	
TiO <sub>2</sub>	%	0,04	%	-	
Cr <sub>2</sub> O <sub>3</sub>	%	0,04	%	0,18	

- Applications** Iron oxides are inexpensive and durable pigments used in paints, coatings, and colored concrete. The commonly found colors are at the "earthy" end of the yellow/orange/red/brown/black range. When used as a food coloring, its E number is E172. It is of particular interest in the field of nanotechnology. Iron oxides in nanoparticle form play a role in biomedical and surface coating technologies due to their superparamagnetic properties. They are also used as active agents in processes such as environmental cleanup and water treatment. Thanks to these versatile applications, iron oxides have emerged as components of both industrial and environmental importance. These compounds, available in solid form, are particularly preferred in glaze applications and pigment production.

- Packaging** 25 Kg bags, big bags
- Geo.Location** Eskisehir / Türkiye ( Middle Anatolia)
- Particle Size** < 500 micron