

Iron Oxide / พงเหล็กออกไซด์

Iron (Fe) comes into contact with air (O₂) and moisture (H₂O), forming iron oxide (rust).



Properties of Iron Oxide

- Can be reduced back to iron at high temperatures (used in blast furnaces)
- Resistant to high heat
- Low electrical conductivity
- Non-flammable / non-explosive
- Not strongly magnetic
- Insoluble in water



Applications

Iron Industry

- Main raw material for steel production (Hematite ore)
- Used in the smelting process in blast furnaces
- Source of Fe for steelmaking

Paint and Pigment Industry

- Red, brown, brick pigments
- Anti-rust primer (Red oxide primer)
- Paint for steel structures

Construction Industry

- Mixed into cement to provide color
- Used for colored concrete flooring
- Applied in roofing sheets and decorative material

Magnet and Electronics Industry

- Raw material for ferrite production
- Used in transformer cores, motors, and speakers
- Used in magnetic data recording materials (older technology)

Chemical Industry (Catalyst)

- Used as a catalyst
- Applied in the Fischer-Tropsch process
- Used in ammonia production (together with other substances)

Environmental Industry

- Used to absorb heavy metals in wastewater
- Applied in nanomaterials for pollution treatment

Chemical Composition & Characteristics

Classification	Chemical Composition (%By weight)					Particle Characteristics			Packaging
	Fe ₂ O ₃	SiO ₂	Cl	Ca	Mn	Bulk density (g/cm ²)	density (μm)	Particle size (μm)	
Type A	≥ 98	≤ 0.1	≤ 0.2	≤ 0.025	≤ 0.035	0.70-1.00	2.70-2.80	<1.00	1MT/Bag
Type B			0.21-0.40						