

Synthetic Rutile

DESCRIPTION

Synthetic Rutile, is a natural mineral upgraded by acid leaching to achieve Titanium Dioxide > 95% and reducing Iron < 2.5%. It is a golden yellow coloured mineral without a specific odour.

APPLICATIONS

The main uses for Rutile are the manufacture of Titanium Tetra Chloride, Sponge Titanium and Welding Electrodes.

CHEMICAL NAME & FORMULA

Titanium Dioxide
TiO₂

INPUT

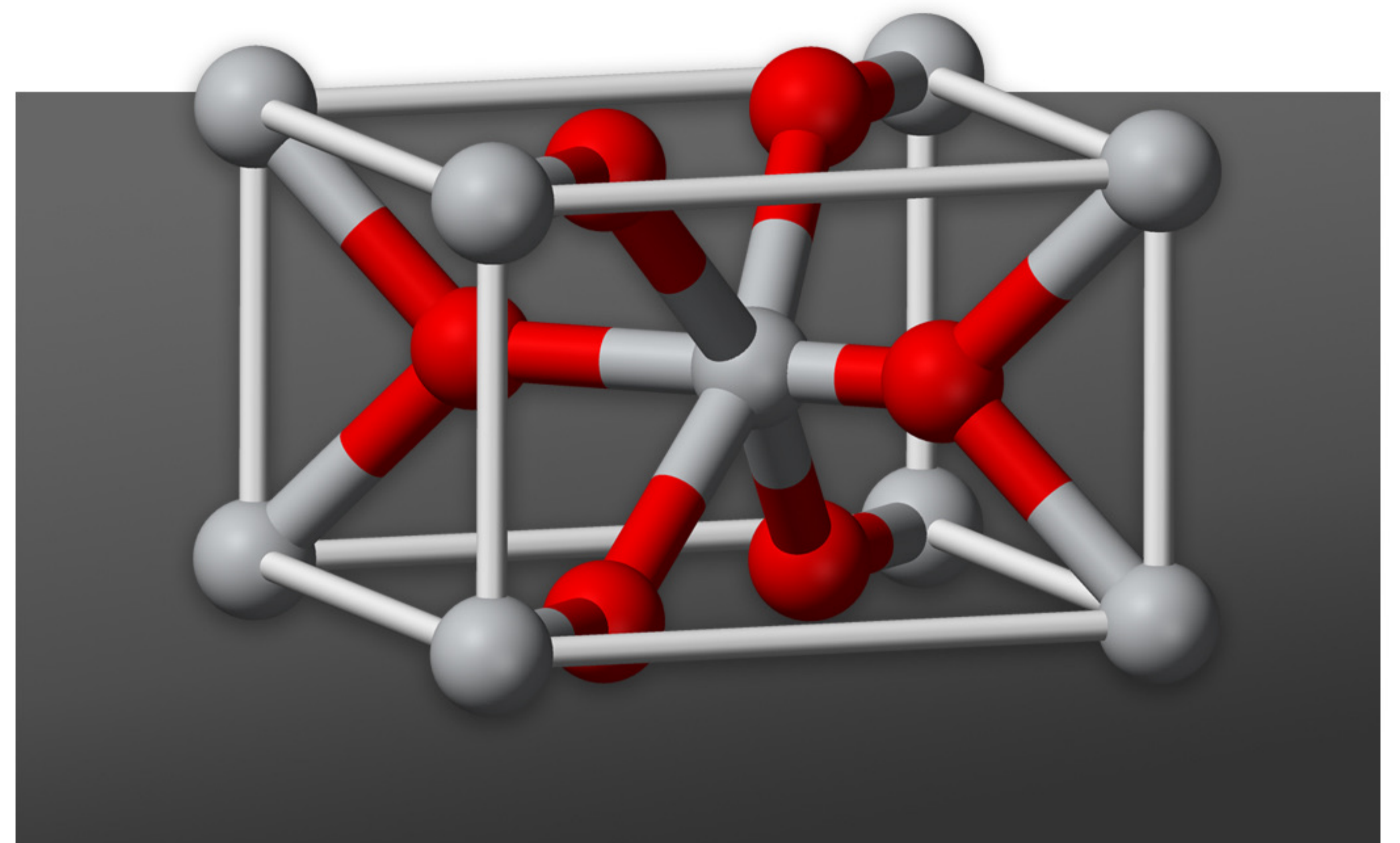
Ilmenite Ore, Charcoal and Hydrochloric Acid

CHEMICAL FORMATION

Crystalline

OUTPUT

Synthetic Rutile



Product Properties

Description	Synthetic Rutile
Appearance	Pale Yellow Crystal
Corrosive	No
Flammability	Not Flammable
Solubility	Not Soluble
Boiling Point	4532 to 5432 °F
Melting / Freezing Point	3326 to 3362 °F
Specific Gravity	3.84 to 4.26

Product Specifications

Characteristics	Grade Wide Specifications (by percent)					
	MK		IP-2		IP-1	
Titanium Dioxide as TiO ₂ (%)	95.00	min.	94.00	min.	94.00	min.
Total Iron as Fe (%)	2.50	max.	2.50	max.	2.60	max.
Iron as Ferric Oxide, Fe ₂ O ₃ (%)	3.00	max.	3.50	max.	4.00	max.
Loss on Ignition at 900°C (%)	0.50	max.	0.50	max.	0.50	max.
Moisture at 110°C (%)	0.50	max.	0.50	max.	0.50	max.
Silica as SiO ₂ (%)	1.25	max.	1.50	max.	1.50	max.
Particle size of 20 – 200 BSS mesh (%)	90	min.	90	min.	90	min.

Related Information

PACKAGING & HANDLING

Material can be packed and handled in HDPE bags or in bulk for transportation.

TRANSPORT CLASSIFICATION

CAS No. 013 463 677

U.N. No. 1710

ITC (HS) Classification No. 282300

PRODUCT USAGES

TiO₂ pigment, Welding Electrodes, Paints, Titanium Sponge etc.



Product Safety Data

Name of Product	Upgraded Beneficiated Ilmenite (Synthetic Rutile)
Composition / Components	Natural mineral upgraded by acid leaching to achieve TiO ₂ > 95% and reducing Fe < 2.5%
Hazard Identification	Eye: Solid or dust is moderate eye irritant due to its abrasive action. Otherwise normally non- hazardous.
First Aid Measures	Eye: Hold eyes open and rinse continuously with gentle stream of clean running water. Seek medical attention if irritation or soreness persists. Skin: No specific aid. Remove contaminated clothing and wash off thoroughly with soap water.
Measures For Fire Fighting	No firing property exists.
First Aid Measures In Case Of Unintentional Release	Use goggles or glasses while handling. Acid generating dusts. Sweep or vacuum up and reuse.
Handling & Storage	Easy to handle like general commodity. No specific storage requirements but should be designed to minimize creation of dust.
Exposure Limit & Staff Protection Equipment	Use goggles or glasses. Use gloves to avoid dusting.
Physical & Chemical Properties	Golden yellow colour mineral without specific odour. Insoluble in water.
Stability & Reactivity	Being inert, fully stable without reactivity.
Information Of Toxicology	Non-Toxic
Information About Waste Disposal	Disposable to landfill to prevent generation of dust, subject to local regulations.
Information About Transport	Transportable as general commodity
Statutory Regulatory Information	Shipping Name: Synthetic Rutile
Other Information	ITC (HS) Classification No. 282300 CAS No. 013463677