



Titanium hydride Grade VM

Article Number 454013

CAS-No. 7704-98-5

Typical Properties

Formula:	TiH ₂
Form and Color:	powder, grey to black
Melting Point:	decomposition above 400°C

Applications Titanium hydride powders find application in both pyrotechnic and metallurgical areas. They are utilized in initiator squibs and igniters. They are also used as getters in the manufacture of vacuum tubes, as brazing aids in sealing ceramics to metals, the introduction of titanium to alloys; as reservoir for pure hydrogen; as hydrogen source for foaming metals; as a deoxidizing agent and for the absorption of carbon in powder metallurgy; for the production of Ti alloys and semi-finished sintered articles; as a constituent in AlNiCo and TiCoNiAl sintered magnets; used for increasing the coercivity of FeNiCoAlCu magnets.

Characteristics **Highly flammable solid. Dust explosion hazard.**

Stable titanium hydride powder of high purity, yielding hydrogen at elevated temperatures in a reversible reaction; easily pressed and sintered. Like Ti metal, TiH₂ is resistant to most chemical reagents, but is attacked at elevated temperature by oxidizing agents and acids. TiH₂ is attacked by cold hydro fluoric acid solutions.

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Typical Analysis	Ignition Gain	min. 56.7 %
	Ti _{total}	min. 94 %
	Hydrogen	min. 3.7 %
	Fe	n/a
	Cl	n/a
	Ni	n/a
	Si	n/a
	Mg	n/a
	C	n/a
	Specific Surface BET	min. 2.0 m ² /g
	Particle Size	min. 99.9 % < 45 µm
	Average Particle Size acc. to BLAINE	1.8 ± 0.2 µm
	Auto Ignition Temperature	> 230 °C
Recommended Test Methods	Determination of average particle size, particle size distribution, screening analysis, combustion properties, and ignition gain. Gravimetric or colorimetric analysis of titanium and determination of hydrogen.	
Handling	Safe to handle at room temperature. At elevated temperatures and low pressures the generation of hydrogen must be considered. Risk of dust explosion. In case of fire cover with dry sand or dry chemical/dolomite (powdered limestone). Never extinguish with water, carbon dioxide, or halocarbon. See our material safety data sheet and special precautionary advice for more information on safety.	
Packaging	Titanium hydride is packed in polyethylene bags overpacked in tin cans of 2.5 kg, and 15 kg TiH ₂ capacity. Other packaging sizes on request.	
Transport Classification	GGVE, GGVS, RID, ADR: class 4.1, fig. 14 b IMDG-code: class 4.1 UN-No. 1871, PG. II ICAO: class 4.1 UN-No. 1871, PG. II/Drill-Code 3 W	