TECHNICAL DATA SHEET

Date of Issue: 2016/09/02

Titanium Metal powder, Grade E, dry

CAS-No.	7440-32-6
EC-No.	231-142-3
Molecular Formula	Ti
Product Number	454110

APPLICATION

Titanium powders find application in various pyrotechnic areas. Mixed with oxidizing agents they are used in initiators including air bag inflators. They are also used in manufacture of flash cubes, for joining glass or ceramics to metals, and as a getter substance.

SPECIFICATION

Auto Ignition Temperature	≥ 240°C
Combustion Rate	25 - 45 sec/50 cm
Particle Size	min. 99.9 % < 45 µm
Average Particle Size	3 ± 1 µm
Gain on Ignition	55.0 - 59.0 %
Ti total	93.0 - 95.4 %
Ti active	82.5 - 88.5 %
Ca	max. 1 %
N	max. 1 %
Si	max. 2.5 %
Mg	max. 0.05 %
Al	max. 1.5 %
Cl	max. 0.1 %

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METHOD OF ANALYSIS

Determination of average particle size, particle size distribution, combustion properties and gain on ignition.Gravimetric analysis of titanium and determination of accompanying substances.

PHYSICAL PROPERTIES

Appearance	powder
Color	gray black
Melting point/ range	1,668 - 1,675 °C
Flash point	1,700 - 1,750 °C
Boiling point/boiling range	3,260 - 3,500 °C
Density	4.5 g/cm3 at 20 °C
Bulk density	1,000 - 2,000 kg/m3
Water solubility	(practically insoluble)
Molecular weight	47.87 g/mol

HANDLING & STORAGE

Handling

Highly flammable solid. Dust explosion hazard.

Fine Ti metal powder ignites reliably and burns away at high temperature within a short time. Ti metal powder is resistant to most chemical reagents but is attacked at elevated temperatures by acids and by oxidizing agents. Dilute aqueous HF attacks titanium vigorously.

Keep away from flames, sparks and heat sources. Use ground connected metallic apparatus to prevent electrostatic charges causing self ignition. Vacuum drying of suspensions is not recommended. Wear gloves and protective goggles. In case of fire cover with dry sand or dry chemical/dolomite (powdered limestone). Never extinguish with water, carbon dioxide, or halocarbon.

See our safety data sheet and special precautionary advice for more information on safety.

TRANSPORT & PACKAGING

UN number 2546

ADR	Class: 4.2	PG: I	Label: 4.2
RID	Class: 4.2	PG: I	Label: 4.2
IMDG	Class: 4.2	PG: I	Label: 4.2
IATA_C	Class: 4.2		
IATA_P	Class: 4.2		

Hazard pictograms

Signal Word	Danger
H&P Phrases	See Safety Data Sheet
Labelling	The labelling is according to EU-GHS classification ((EG) 1272/2008) and may vary in other countries. Please refer to the respective Safety Data Sheet for your country.

Packaging

As dry powder in tin cans. Ti content 1.0 kg, 2.5 kg or 5.0 kg. Other packaging quantities on request.

OTHER INFORMATION

Further Related Documents	Safety Data Sheet