TECHNICAL DATA SHEET

Date of Issue: 2016/09/02

Titanium Metal powder, Grade S (9.5 µm), wet

CAS-No.	7440-32-6
EC-No.	231-142-3
Molecular Formula	Ti
Product Number	454151

APPLICATION

As getter material in vacuum technology. In the manufacture of Hg dispensers in mercury-vapor lamps. As a deoxidizing agent in powder metallurgy. For reactive solders and brazes. Titanium powders also find application in various pyrotechnic areas. Mixed with oxidizing agents they are used in initiators and air bag inflators. They are also used in the manufacture of flash cubes, for joining glass or ceramics to metals, and as a getter substance.

SPECIFICATION

Auto Ignition Temperature	> 400 °C
Combustion Rate	35 ± 10 sec/50 cm
Particle Size	min. 99.9 % < 45 µm
Average Particle Size	9.5 ± 1.5 µm
Apparent Density	approx. 1.4 g/ccm
Gain on Ignition	min. 64.5 %
Ti total	min. 98.7 %
Ti active	min. 96.7 %
N	max. 0.5 %
H	max. 0.1 %
Fe	max. 0.09 %
Cl	max. 0.06 %
Ni	max. 0.05 %
Si	max. 0.1 %

Mg	max. 0.04 %

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. For specific information on our standard methods of testing see the special metals sales program.

PHYSICAL PROPERTIES

Appearance	suspension
Color	dark gray
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	ca. 1.4 g/cm3 at 20 °C
Bulk density	1,000 - 2,000 kg/m3
Water solubility	(practically insoluble) (Dry powder)
Molecular weight	47.87 g/mol

HANDLING & STORAGE

Handling

Highly flammable solid. Dust explosion hazard.

A pure titanium powder with high Ti metal content. Ti metal powder is resistant to most chemical reagents but is attacked at elevated temperatures by acids and oxidizing agents. Dilute aqueous hydrofluoric acid 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. Titanium powder is a flammable solid and should be handled with caution. Mixing, blending, milling, and grinding of dry Ti powder should be done only under argon or helium. 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 1352

ADR	Class: 4.1	PG: II	Label: 4.1
RID	Class: 4.1	PG: II	Label: 4.1
IMDG	Class: 4.1	PG: II	Label: 4.1
IATA_C	Class: 4.1	PG: II	Packing instruction (cargo aircraft): 448
IATA_P	Class: 4.1	PG: II	Packing instruction (passenger aircraft): 445

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 aqueous suspension in PE-bottles overpacked in tin cans. Standard containers are 2.5 kg net weight (water content min. 30 % by weight). Other packaging quantities on request.

OTHER INFORMATION

Further Related Documents Safety Data Sheet