TECHNICAL DATA SHEET

Date of Issue: 2016/09/02

Titanium Metal powder, Grade E, wet

CAS-No. 7440-32-6

EC-No. 231-142-3

Molecular Formula Ti

Product Number 454111

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 %	
CI	max. 0.1 %	

The information presented herein is believed to be accurate and reliable, but is presented without guarantee or responsibility on the part of Albemarle Corporation and its subsidiaries and affiliates. It is the responsibility of the user to comply with all applicable laws and regulations and to provide for a safe workplace. The user should consider any health or safety hazards or information contained herein only as a guide, and should take those precautions which are necessary or prudent to instruct employees and to develop work practice procedures in order to promote a safe work environment. Further, nothing contained herein shall be taken as an inducement or recommendation to manufacture or use any of the herein materials or processes in violation of existing or future patent.



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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 suspension

Color dark gray

Melting point/ range 1,668 - 1,675 °C

Flash point 1,700 - 1,750 °C

Boiling point/boiling 3,260 - 3,500 °C

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range Density 0,200 0,000 0

ca. 1.4 g/cm3 at 20 °C

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Bulk density 1,000 - 2,000 kg/m3

Water solubility (practically insoluble) (Dry powder)

Molecular weight 47.87 g/mol

HANDLING & STORAGE

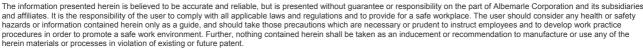
Handling

Highly flammable solid. Dust explosion hazard.

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.





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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. Ti content 1.0 kg or 2.5 kg (water content min. 30 %). Other packing quantities on request.

OTHER INFORMATION

Further Related Documents

Safety Data Sheet

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