

TECHNICAL DATA SHEET

Date of Issue: 2016/09/02

Titanium Metal powder, Grade EP, dry

CAS-No. 7440-32-6

EC-No. 231-142-3

Molecular Formula Ti

Product Number 454140

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

Particle Size min. 99.9 % < 500 μ m

Average Particle Size 4.5 \pm 1.5 μ m

Combustion Rate 17.5 \pm 7.5 sec/50 cm

Apparent Density 1.2 \pm 0.2 g/ccm

Gain on Ignition 63.5 \pm 2.5 %

Ti total 98.0 \pm 1.5 %

Ti active 95 \pm 4 %

Ca max. 0.5 %

N \leq 2,0%

Si max. 0.3 %

Mg max. 0.1 %

Al max. 0.3 %

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.

Technical data sheets may change frequently. You can download the latest version from our website www.albemarle-lithium.com. Please contact us at www.albemarle-lithium.com/contact with questions.

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	dark gray to 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/cm ³ at 20 °C
Bulk density	1,000 - 2,000 kg/m ³
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 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. 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.

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.

Technical data sheets may change frequently. You can download the latest version from our website www.albemarle-lithium.com. Please contact us at www.albemarle-lithium.com/contact with questions.

TRANSPORT & PACKAGING

UN number 2546

ADR	Class: 4.2	PG: II	Label: 4.2
RID	Class: 4.2	PG: II	Label: 4.2
IMDG	Class: 4.2	PG: II	Label: 4.2
IATA_C	Class: 4.2	PG: II	Packing instruction (cargo aircraft): 470
IATA_P	Class: 4.2	PG: II	Packing instruction (passenger aircraft): 467

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 sizes on request.

OTHER INFORMATION

Further Related Safety Data Sheet
Documents

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.

Technical data sheets may change frequently. You can download the latest version from our website www.albemarle-lithium.com. Please contact us at www.albemarle-lithium.com/contact with questions.