

TECHNICAL DATA SHEET

Date of Issue: 2016/09/02

Zirconium Hydride, Grade F

CAS-No. 7704-99-6

EC-No. 231-727-3

Molecular Formula ZrH_2

Product Number 453220

APPLICATION

Mixed with oxidizing agents a constituent in compositions for flares, fuzes and combustion charges in pyrotechnics; as a binding or brazing component for grinding agents, carbides, ceramics and metal in abrasive wheels and polishing disks. Applicable as hydrogen source for the foaming of metals.

SPECIFICATION

Zr + Hf	total 95.1 - 96.6 %
Hf	approx. 2 % (natural content)
H	min. 1.4 %
Si	max. 0.6 %
Mg	max. 0.3 %
Ti	max. 0.15 %
Al	max. 0.2 %
Fe	max. 0.1 %
Ca	max. 0.1 %

METHOD OF ANALYSIS

Determination of oxidation value, particle size distribution and average particle size; gravimetric analysis of zirconium, determination of hydrogen content and impurities.

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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PHYSICAL PROPERTIES

Appearance	powder
Color	black to gray
Decomposition temperature	> 400 °C (Decomposes before melting.)
Bulk density	1,000 - 2,000 kg/m ³
Water solubility	(practically insoluble)
Molecular weight	93.24 g/mol
Grain Size	min. 99.9 % < 45 µm by sieving, APS 2.3 +/- 0.5 µm acc. to Blaine
Additional Physical Properties	Combustion Rate: 350 +/- 60 sec/50 cm (Albemarle standard) Gain on Ignition: 29.5 +/- 1.0 % (weight increase by combustion)

HANDLING & STORAGE

Handling	Highly flammable solid. Dust explosion hazard. A stable hydride powder which burns at red heat; less ignitable than a comparable zirconium powder. Keep away from flames, sparks and heat sources; use ground-connected metallic apparatus to avoid sudden ignition by electrostatic discharge; wear gloves, a face shield or goggles; in case of fire, cover only with sand, limestone or with a dry extinguishing powder suitable for metal fires class D; DO NOT USE WATER! Refer to our safety data sheet and special precautionary advice for specific safety information!
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TRANSPORT & PACKAGING

UN number 1437

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

Dry, in tin cans of max. 5 kg capacity.

OTHER INFORMATION

Further Related Safety Data Sheet
Documents

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