

TECHNICAL DATA SHEET

Date of Issue: 2021/07/22

Zirconium Hydride, Grade F

| | |
|-------------------|-----------------------|
| CAS-No. | 7704-99-6 |
| EC-No. | 231-727-3 |
| REACH No. | 01-2120760629-43-0000 |
| Molecular formula | ZrH ₂ |
| Product number | 10000386, 10001972 |

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 % |

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

PHYSICAL PROPERTIES

| | |
|--------------------------------|---|
| Appearance | powder |
| Colour | black to grey |
| Decomposition temperature | > 400 °C (Decomposes before melting.) |
| Boiling point/boiling range | (Decomposes below the boiling point.) |
| Density | 5.6 g/cm ³ at 25 °C (Information taken from reference works and the literature.) |
| Bulk density | 1,000 - 2,000 kg/m ³ |
| Water solubility | < 0.00008 g/l at 23 °C Method: OECD Test Guideline 29 |
| 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 Documents

Safety Data Sheet

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