

TECHNICAL DATA SHEET

Date of Issue: 2016/09/02

Zirconium Hydride, Grade G

CAS-No. 7704-99-6

EC-No. 231-727-3

Molecular Formula ZrH_2

Product Number 453310

APPLICATION

For the production of highly effective getters, to be activated by dehydrogenation; as a safe to use component in powder metallurgy; for illumination effects in pyrotechnics. Applicable as hydrogen source for the foaming of metals.

SPECIFICATION

Zr + Hf min. 97.6 +/- 0.5 %

Hf approx. 2 % (natural content)

H min. 1.9 %

Ti max. 0.3 %

Si max. 0.5 %

Ca total max. 0.15 %

Mg max. 0.2 %

Fe max. 0.08 %

Al max. 0.3 %

Cl max. 0.05 %

Ca solubles max. 0.05 %

METHOD OF ANALYSIS

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

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.

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 average particle size acc. to Blaine 5.5 +/- 1 µm
Additional Physical Properties	Ignition Point: 200 - 310 °C Combustion Rate: 1,300 +/- 600 sec/50 cm Gain on Ignition: 31.8 +/- 0.7 % (weight increase by combustion)

HANDLING & STORAGE

Handling	Highly flammable solid. Dust explosion hazard. A zirconium hydride powder of high purity and low oxide content; due to coarse particle size and hydrogen content less ignitable than other grades. Do not process close to open flame; use ground connected metallic apparatus to prevent sudden ignition by electrostatic discharge; unlimited shelf life; in case of fire, cover only with sand or suitable dry fire extinguishing powder, never use water. See our safety data sheet and special precautionary advice in this delivery program.
----------	---

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 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

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.