

TECHNICAL DATA SHEET

Date of Issue: 2016/09/02

Zirconium Metal powder, Grade ZS, dry

CAS-No. 7440-67-7

EC-No. 231-176-9

Molecular Formula Zr

Product Number 453140

APPLICATION Suitable for getter suspensions, for igniter pastes and for numerous pyrotechnical uses.

FURTHER INGREDIENTS

Hafnium

CAS-No. 7440-58-6

EC-No. 231-166-4

SPECIFICATION

Zr + Hf total	min. 98.5 %
Zr + Hf metallic	min. 94.1 %
Hf	approx. 2 % (natural content)
N	max 0.3 %
Mg	max 0.3 %
Si	max 0.2 %
H	max 0.25 %
Ca total	max 0.5 %
Cl	max 0.1 %
Ca soluble	max 0.03 %
Al	max 0.03 %
Fe	max 0.03 %

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METHOD OF ANALYSIS

Determination of ignition gain, particle size distribution, average particle size, specific surface area and combustion properties; gravimetric analysis of zirconium; verification of nitrogen content and accompanying impurities by special analytical methods.

PHYSICAL PROPERTIES

Appearance	powder
Color	dark gray
Melting point/ range	1,852 °C
Boiling point/boiling range	3,577 °C
Density	6.5 g/cm ³ at 20 °C
Bulk density	1,200 - 2,300 kg/m ³
Water solubility	(practically insoluble)
Grain Size	min. 99.9 % < 45 µm by sieving APS 3 +/- 0.5 µm acc. to Blaine
Additional Physical Properties	Ignition Point: 220 +/- 30 °C Combustion Rate: 35 +/- 15 sec/50 cm (Albemarle standard) Gain on Ignition: min. 33.0 % (weight increase by combustion)

HANDLING & STORAGE

Handling	Highly flammable solid. Dust explosion hazard. A pure zirconium powder with a high metal content, easily ignitable; rapidly burning off at white heat. Keep away from flames, sparks and heat sources; use ground-connected metallic apparatus to avoid sudden ignition by electrostatic discharge; self-ignition is possible; vacuum-drying of suspensions not recommended; 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 2008

ADR	Class: 4.2	PG: I	Label: 4.2
RID	Class: 4.2	PG: I	Label: 4.2
IMDG	Class: 4.2	PG: I	Label: 4.2
IATA_C	Class: 4.2		
IATA_P	Class: 4.2		

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

In tin cans of max. 5 kg capacity.

OTHER INFORMATION

Further Related Safety Data Sheet
Documents

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