

TECHNICAL DATA SHEET

Date of Issue: 2016/09/02

Zirconium Metal powder, Grade ZE, dry

CAS-No. 7440-67-7

EC-No. 231-176-9

Molecular Formula Zr

Product Number 453130

APPLICATION

Well suited for the manufacture of transmitter tubes as an ultrapure getter material with extremely low gas formation.

FURTHER INGREDIENTS

Hafnium

CAS-No. 7440-58-6

EC-No. 231-166-4

SPECIFICATION

Zr + Hf total	min. 98.8 %
Zr + Hf active	min. 95.2 %
Hf	approx. 2 % (natural content)
Ca total	max. 0.5 %
N	max. 0.5 %
Si	max. 0.2 %
Ti	max. 0.15 %
H	max. 0.15 %
Cl	max. 0.05 %
Ca soluble	max. 0.05 %
C	max. 0.05 %
Al	max. 0.03 %
Fe	max. 0.03 %

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Mg	max. 0.01 %
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METHOD OF ANALYSIS

Verification of properties under vacuum of each production lot.

Determination of oxidation value, particle distribution and average particle size; gravimetric analysis of zirconium and spectral analysis of accompanying impurities.

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 4 +/- 1 µm acc. to Blaine
Additional Physical Properties	Ignition Point: 250 +/- 50 °C Combustion Rate: 23 +/- 7 sec/50 cm (Albemarle standard) Specific Surface (BET): 0.6 +/- 0.2 m ² /g Gain on Ignition: min. 33.4 % (weight increase by combustion)

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HANDLING & STORAGE

Handling Highly flammable solid. Dust explosion hazard.

An extremely pure, high-grade zirconium metal powder with a high metal content, evolving almost no volatile impurities in high vacuum up to 1,200 °C.

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!

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.

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Packaging

In tin cans of max. 5 kg capacity.

OTHER INFORMATION

Further Related Documents Safety Data Sheet

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