

TECHNICAL DATA SHEET

Date of Issue: 2016/09/02

Zirconium Hydride, Grade PS

CAS-No. 7704-99-6

EC-No. 231-727-3

Molecular Formula ZrH_2

Product Number 453335

APPLICATION

As a binding component between grinding agents, carbides, ceramics and metal; as an alloying constituent in powder metallurgy. Applicable as hydrogen source for the foaming of metals.

SPECIFICATION

Zr + Hf	min. 93.0 %
Hf	min. 0.20 - 2.50 % (natural content)
H	min. 1.5 %
Fe	max. 0.1 %
Si	max. 0.10 %
Cr	max. 0.05 %
C	max. 0.05 %
S	max. 0.005 %
Ca	max. 0.01 %
Al	max. 0.03 %
Ni	max. 0.03 %
Cd	max. 0.0005 %
Pb	max. 0.0005 %
Co	max. 0.01 %

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METHOD OF ANALYSIS

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

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 % < 36 µm by sieving APS 2.0 - 3.0 µm acc. to Blaine
Additional Physical Properties	Particle size D50: < or = 6.5 µm Particle size D90: < or = 18 µm Particle size D100: < or = 36 µm

HANDLING & STORAGE

Handling	<p>Highly flammable solid. Dust explosion hazard. A fine zirconium hydride powder of exceptional purity; yielding hydrogen by a reversible reaction in vacuum, slowly burning in air.</p> <p>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.</p>
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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 under Ar, in tins of max. 5 kg capacity

OTHER INFORMATION

Further Related Safety Data Sheet
Documents

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