

# TECHNICAL DATA SHEET

Date of Issue: 2016/09/02

## Hafnium Hydride, Grade PS

CAS-No. 12770-26-2

Molecular Formula  $\text{HfH}_2$

Product Number 457011

### 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

Hf + Zr	min. 95.0 %
H	min. 1.0 %
Ca	max. 0.01 %
Fe	max. 0.10 %
Al	max. 0.03 %
Cr	max. 0.05 %
Ni	max. 0.03 %
Si	max. 0.05 %
Co	max. 0.01 %
C	max. 0.05 %
Cd	max. 0.0005 %
Pb	max. 0.0005 %
S	max. 0.005 %

### METHOD OF ANALYSIS

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

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.

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## PHYSICAL PROPERTIES

Appearance	powder
Color	gray to black
Melting point/ range	$\geq 400$ °C
Density	11.4 g/cm <sup>3</sup> at 20 °C
Water solubility	(practically insoluble)
Grain Size	min. 99.9 % < 36 µm by sieving D50 = 6 µm
Additional Physical Properties	Particle size D50: $\leq 6$ µm Particle size D90: $\leq 18$ µm Particle size D100: $\leq 36$ µm

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## HANDLING & STORAGE

Handling	Highly flammable solid. Dust explosion hazard. A fine hafnium hydride powder of exceptional purity; yielding hydrogen by a reversible reaction in vacuum, slowly burning in air. 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 material safety data sheet and special precautionary advice for specific safety information.
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## TRANSPORT & PACKAGING

UN number 3178

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

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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

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OTHER INFORMATION

Further Related                Safety Data Sheet  
Documents

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