

TECHNICAL DATA SHEET

Date of Issue: 2016/09/02

Zirconium Metal powder, Grade ZM, suspended in amyl acetate

CAS-No.	7440-67-7
EC-No.	231-176-9
Molecular Formula	Zr
Product Number	453059

APPLICATION

For the manufacture of non-sedimenting getter suspensions in lamps and vacuum tubes; as an igniter paste for the production of flash cubes; for the production of highly reactive and quick fuze compositions in pyrotechnics for use in ammunition, explosives, airbags and pretensioners.

FURTHER INGREDIENTS

Amyl acetate

CAS-No.	628-63-7
EC-No.	211-047-3

Hafnium

CAS-No.	7440-58-6
EC-No.	231-166-4

SPECIFICATION

(Zr + Hf)total	97.3 +/- 0.9 %
(Zr + Hf)active	89.4 +/- 3.4 %
Hf	approx. 2 % (natural content)
Mg	max. 0.6 %
Si	max. 0.25 %
H	max. 0.2 %
Fe	max. 0.07 %
Al	max. 0.03 %
Ca	max. 0.05 %

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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.

METHOD OF ANALYSIS

Determination of oxidation value, 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. For specific information on Rockwood Lithium standard determination methods see our delivery program.

PHYSICAL PROPERTIES

Appearance	suspension
Color	dark gray
Melting point/ range	1,852 °C (Zirconium powder) -70.8 °C ([CAS: 628-63-7])
Flash point	25 °C ([CAS: 628-63-7])
Boiling point/boiling range	149 °C ([CAS: 628-63-7])
Density	ca. 1.6 g/cm ³ at 20 °C 6.5 g/cm ³ at 20 °C (Zirconium powder) 0.88 g/cm ³ at 20 °C (Amyl acetate [CAS: 628-63-7])
Bulk density	1,200 - 2,300 kg/m ³ (Zirconium powder)
Water solubility	1.8 g/L at 20 °C ([CAS: 628-63-7]) (practically insoluble) (Zirconium powder)
Grain Size	min. 99.9 % < 45 µm by sieving APS 2.5 +/- 0.5 µm acc. to Blaine
Additional Physical Properties	Ignition Point: 190 +/- 30 °C Combustion Rate: 20 +/- 10 sec/50 cm (Albemarle standard) Gain on Ignition: 31.4 +/- 1.2 % (weight increase by combustion)

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HANDLING & STORAGE

Handling Highly flammable solid. Dust explosion hazard.

A fine zirconium metal powder, easily ignitable and 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.

TRANSPORT & PACKAGING

UN number 1308

ADR	Class: 3	PG: III	Label: 3
RID	Class: 3	PG: III	Label: 3
IMDG	Class: 3	PG: III	Label: 3
IATA_C	Class: 3	PG: III	Packing instruction (cargo aircraft): 366
IATA_P	Class: 3	PG: III	Packing instruction (passenger aircraft): 355

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

Zirconium metal powder is shipped under min. 30 % weight amyl acetate. Standard packaging size: 2.5 kg net weight, other sizes on request.

OTHER INFORMATION

Further Related Documents Safety Data Sheet

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