



Zirconium metal powder

Grade CA, dry

Article Number 453010

CAS-No. 7440-67-7

Typical	Formula	Zr
Properties	Form and color	powder, greyish black
	Melting point	1852 °C

Applications Zirconium powders find application in various pyrotechnic areas. They are a source of heat for squibs and ignition devices for a variety of uses including automotive airbag inflators. For the production of highly reactive and quick fuze compositions in pyrotechnics for use in ammunition, explosives, airbags and safety belt pretensioners. They are also used in manufacture of flash cubes, electronic tubes, as well as as alloying agent with other metals.

Characteristics **Highly flammable solid. Dust explosion hazard.**

An ultra-fine, high-grade zirconium powder which ignites very easily and burns extremely rapidly at white heat. Zirconium metal powder is fairly inert to most chemical reagents, but at elevated temperatures is attacked by oxidizing agents and acids. Zirconium powder is attacked by cold acid fluoride solutions.

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Typical Analysis	Zr _{total} + Hf _{total}	97.4 ± 0.8 %
	Hf	approx. 2 % (natural content)
	Ignition gain	31.5 ± 1.0 %
	Burning rate	13 ± 5 s/50 cm (Chemetall standard)
	Auto ignition temperature	180 ± 20 °C
	Apparent density	approx. 1.1 g/cm ³
	Si	max. 0.7 %
	H	max. 0.2 %
	Al	max. 0.1 %
	Fe	max. 0.07 %
	Ca	max. 0.05 %
	Average particle size (Blaine)	2 ± 0.3 µm
	Particle size	min. 99.9 % < 45 µm

Recommended Test Methods Determination of ignition gain, particle size distribution, average particle size, specific surface area (BET), combustion properties, gravimetric analysis of zirconium, spectrometric determination of impurities. For specific information on our standard methods of testing see the special metals sales program.

Handling 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 is not recommended. Wear gloves, a face shield or safety goggles. Store in tightly closed containers. In case of fire cover with dry sand or dry chemical/dolomite (powdered limestone).

**Never extinguish with water, carbon dioxide, or halocarbon.
See our material safety data sheet and special precautionary advice for more information on safety.**

Packaging As dry powder in tin cans. Standard unit size 1 kg quantity.

Transport Please refer to our MSDS.

Classification