

<a href="#">Zirconium Carbide</a>	<a href="#">Pricing &gt;</a>
<a href="#">Zirconium Carbide Foam</a>	<a href="#">Pricing &gt;</a>
<a href="#">Zirconium Carbide Granules</a>	<a href="#">Pricing &gt;</a>
<a href="#">Zirconium Carbide Honeycomb</a>	<a href="#">Pricing &gt;</a>
<a href="#">Zirconium Carbide Nanoparticles</a>	<a href="#">Pricing &gt;</a>
<a href="#">Zirconium Carbide Powder</a>	<a href="#">Pricing &gt;</a>
<a href="#">Zirconium Carbide Sponge</a>	<a href="#">Pricing &gt;</a>
<a href="#">Zirconium Carbide Sputtering Target</a>	<a href="#">Pricing &gt;</a>
<a href="#">Zirconium Carbide Tile</a>	<a href="#">Pricing &gt;</a>
<a href="#">Zirconium Carbide Wool</a>	<a href="#">Pricing &gt;</a>

<b>Linear Formula</b>	ZrC
<b>Pubchem CID</b>	N/A
<b>MDL Number</b>	MFCD00049640
<b>EC No.</b>	235-125-1
<b>IUPAC Name</b>	N/A
<b>Beilstein/Reaxys No.</b>	N/A
<b>SMILES</b>	[Zr].C
<b>Inchl Identifier</b>	InChI=1S/CH4.Zr/h1H4;
<b>Inchl Key</b>	UGHSGZIDZZRZKT-UHFFFAOYSA-N

<b>Signal Word</b>	Danger
<b>Hazard Statements</b>	H228-H302-H312-H332
<b>Hazard Codes</b>	F, Xn
<b>Risk Codes</b>	11-20/21/22
<b>Safety Statements</b>	16-27-33-36/37/39
<b>RTECS Number</b>	N/A
<b>Transport Information</b>	UN 3178 4.1/PG 2
<b>WGK Germany</b>	3

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## SAFETY DATA SHEET

Date Accessed: 04/25/2024

## SECTION 1. IDENTIFICATION

**Product Identifiers:** All applicable American Elements product codes for CAS #12070-14-3

**Relevant identified uses of the substance:**  
Scientific research and development

Supplier details:  
American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351

Emergency telephone number:  
Domestic, North America +1 800-424-9300  
International +1 703-527-3887

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## SECTION 2. HAZARDS IDENTIFICATION

Accute Health Effects: Irritating to the skin and eyes on contact. Inhalation will cause irritation to the lungs and mucus membrane. Irritation to the eyes will cause watering and redness. Reddening, scaling, and itching are characteristics of skin inflammation. Follow safe industrial hygiene practices and always wear protective equipment when handling this compound.  
Chronic Health Effects: This product has no known chronic effects. Repeated or prolong exposure to this compound is not known to aggravate medical conditions.  
Accute Health Effects:&nbsp;This product is not listed by NTP, IARC or regulated as a Carcinogen by OSHA.

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## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances  
(CAS#) Description:  
Zirconium carbide (CAS# 12070-14-3): 100%  
Identification number(s):  
EINECS Number: 235-125-1  
Additional information:  
Zirconium is routinely found with a low level of hafnium since separation of the two elements is difficult.

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## **SECTION 4. FIRST AID MEASURES**

Description of first aid measures

If inhaled:

Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

In case of skin contact:

Immediately wash with soap and water; rinse thoroughly.

Seek immediate medical advice.

In case of eye contact:

Rinse opened eye for several minutes under running water. Consult a physician.

If swallowed:

Seek immediate medical advice.

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## **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media

Suitable extinguishing agents

In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.

For safety reasons unsuitable extinguishing agents

Water

Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Metal oxide fume

Carbon monoxide and carbon dioxide

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

Environmental precautions:

Do not allow material to be released to the environment without official permits.

Methods and materials for containment and cleanup:

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

Keep away from ignition sources.

Reference to other sections  
See Section 7 for information on safe handling  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

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## **SECTION 7. HANDLING AND STORAGE**

### Handling

Precautions for safe handling

Handle under dry protective gas.

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

Keep ignition sources away.

Protect against electrostatic charges.

Fumes can combine with air to form an explosive mixture.

Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles: Store in a cool location.

Information about storage in one common storage facility:

Store away from air.

Store away from oxidizing agents.

Further information about storage conditions:

Store under dry inert gas.

Keep container tightly sealed.

Store in cool, dry conditions in well-sealed containers.

This product is air sensitive.

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with limit values that require monitoring at the workplace:

Zirconium and compounds, as Zr  
mg/m<sup>3</sup>

ACGIH TLV 5; 10-STEL

Austria MAK 5

Denmark TWA 5

Finland TWA 5

Hungary 5-STEL  
Korea TLV 5  
Poland TWA 5; 10-STEL  
Russia 5-STEL  
OSHA PEL 5  
Additional information: No data  
Exposure controls  
Personal protective equipment  
Follow typical protective and hygienic practices for handling chemicals.  
Keep away from foodstuffs, beverages and feed.  
Remove all soiled and contaminated clothing immediately.  
Wash hands before breaks and at the end of work.  
Breathing equipment: Use suitable respirator when high concentrations are present.  
Protection of hands:  
Impervious gloves  
Inspect gloves prior to use.  
Material of gloves  
The selection of suitable gloves not only depends on the material, but also on quality.  
Quality will vary from manufacturer to manufacturer.  
Eye protection: Safety glasses  
Body protection: Protective work clothing.

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## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Information on basic physical and chemical properties

Appearance:

Form: Solid in various forms

Color: Grey

Odor: Odorless

Odor threshold: No data available.

pH: N/A

Melting point/Melting range: 3540°C (6404 °F)

Boiling point/Boiling range: No data available

Sublimation temperature / start: No data available

Flash point: N/A

Flammability (solid, gas) Highly flammable.

Ignition temperature: No data available

Decomposition temperature: No data available

Autoignition: No data available.

Explosion limits:

Lower: No data available

Upper: No data available

Vapor pressure: N/A

Density at 20°C (68 °F): 6.73 g/cm<sup>3</sup> (56.162 lbs/gal)

Relative density No data available.

Vapor density N/A

Evaporation rate N/A

Solubility in / Miscibility with

Water: Insoluble  
Segregation coefficient (n-octanol/water): No data available.  
Viscosity:  
Dynamic: N/A  
Kinematic: N/A  
Other information No data available

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## **SECTION 10. STABILITY AND REACTIVITY**

Reactivity  
Chemical stability  
Thermal decomposition / conditions to be avoided:  
Decomposition will not occur if used and stored according to specifications.  
Possibility of hazardous reactions No dangerous reactions known  
Incompatible materials:  
Air  
Oxidizing agents  
Hazardous decomposition products:  
Metal oxide fume  
Carbon monoxide and carbon dioxide

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on toxicological effects  
Acute toxicity:  
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.  
LD/LC50 values that are relevant for classification: No data  
Skin irritation or corrosion: May cause irritation  
Eye irritation or corrosion: May cause irritation  
Sensitization: No sensitizing effects known.  
Germ cell mutagenicity: No effects known.  
Carcinogenicity:  
ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.  
Reproductive toxicity: No effects known.  
Specific target organ system toxicity - repeated exposure: No effects known.  
Specific target organ system toxicity - single exposure: No effects known.  
Aspiration hazard: No effects known.  
Subacute to chronic toxicity: No effects known.  
Additional toxicological information:  
To the best of our knowledge the acute and chronic

toxicity of this substance is not fully known.

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## **SECTION 12. ECOLOGICAL INFORMATION**

Toxicity

Acquatic toxicity: No data available

Persistence and degradability No data available

Behavior in environmental systems:

Bioaccumulative potential No data available

Mobility in soil No data available

Additional ecological information:

Do not allow material to be released to the environment without official permits.

Results of PBT and vPvB assessment

PBT: N/A

vPvB: N/A

Other adverse effects No data available

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

Waste treatment methods

Recommendation

Consult official regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation:

Disposal must be made according to official regulations.

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## **SECTION 14. TRANSPORT INFORMATION**

DOT

Proper Shipping Name: None

Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

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## **SECTION 15. REGULATORY INFORMATION**

Safety, health and environmental regulations/legislation specific for the substance or mixture

Product related hazard informations:

Hazard symbols:

F Highly flammable

Risk phrases:

11 Highly flammable.

Safety phrases:

7 Keep container tightly closed.

33 Take precautionary measures against static discharges.

43 In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.

60 This material and its container must be disposed of as hazardous waste.

National regulations

All components of this product are listed in the U.S.

Environmental Protection Agency Toxic

Substances Control Act Chemical substance

Inventory.

Information about limitation of use: For use only by technically qualified individuals.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.