


Zirconium Balls	Pricing >
Zirconium Band	Pricing >
Zirconium Bars	Pricing >
Zirconium Blocks	Pricing >
Zirconium Boats	Pricing >
Zirconium Chunk	Pricing >
Zirconium Coil	Pricing >
Zirconium Concentrate	Pricing >
Zirconium Crucibles	Pricing >
Zirconium Crystal Bar Milled Chips	Pricing >
Zirconium Cubes	Pricing >
Zirconium Cylinder	Pricing >
Zirconium Disc	Pricing >
Zirconium Flake	Pricing >
Zirconium Flange	Pricing >
Zirconium Foam	Pricing >
Zirconium Foil	Pricing >
Zirconium Granules	Pricing >
Zirconium Honeycomb	Pricing >
Zirconium Ingot	Pricing >
Zirconium Lump	Pricing >
Zirconium Mesh	Pricing >
Zirconium Metal	Pricing >
Zirconium Microfoil	Pricing >
Zirconium Microleaf	Pricing >
Zirconium Nanoparticle Dispersion	Pricing >
Zirconium Nanoparticles	Pricing >
Zirconium Nanoprisms	Pricing >
Zirconium Nanorods	Pricing >
Zirconium Non-Woven Fabric	Pricing >

Zirconium Particles	Pricing >
Zirconium Parts	Pricing >
Zirconium Pellets	Pricing >
Zirconium Pieces	Pricing >
Zirconium Plate	Pricing >
Zirconium Powder	Pricing >
Zirconium Puck	Pricing >
Zirconium Ribbon	Pricing >
Zirconium Ring	Pricing >
Zirconium Rod	Pricing >
Zirconium Rotatable Sputtering Target	Pricing >
Zirconium Sample	Pricing >
Zirconium Shavings	Pricing >
Zirconium Sheet	Pricing >
Zirconium Shot	Pricing >
Zirconium Single Crystal	Pricing >
Zirconium Sleeves	Pricing >
Zirconium Slugs	Pricing >
Zirconium Specimen	Pricing >
Zirconium Spheres	Pricing >
Zirconium Sponge	Pricing >
Zirconium Spring	Pricing >
Zirconium Sputtering Target	Pricing >
Zirconium Strip	Pricing >
Zirconium Tape	Pricing >
Zirconium Tube	Pricing >
Zirconium Wafer	Pricing >
Zirconium Wire	Pricing >
Zirconium Wool	Pricing >

Linear Formula	Zr
Pubchem CID	23995
MDL Number	MFCD00011303
EC No.	231-176-9
Beilstein/Reaxys No.	N/A

SMILES	[Zr]
InchI Identifier	InChI=1S/Zr
InchI Key	QCWXUUIWCKQGHC-UHFFFAOYSA-N
Signal Word	Danger
Hazard Statements	H250-H260
Hazard Codes	F
Precautionary Statements	P222-P223-P231 + P232-P370 + P378-P422
Risk Codes	15-17
Safety Statements	43-7/8
RTECS Number	ZH7070000
Transport Information	UN1358 - class 4.1 - PG 2 - Zirconium powder
WGK Germany	nwg
GHS Pictograms	<u>GHS02 Flame</u> 

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SAFETY DATA SHEET

Date Accessed: 04/19/2024

Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #7440-67-7

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

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

The substance is not classified as hazardous to health or the environment according to the CLP regulation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

N/A

Information concerning particular hazards for human and environment:

No data available

Hazards not otherwise classified

No data available

Label elements

Labelling according to Regulation (EC) No 1272/2008

N/A

Hazard pictograms

N/A

Signal word

N/A

Hazard statements

N/A

WHMIS classification

Not controlled

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH

FIRE

REACTIVITY

0

0

0

Health (acute effects) = 0

Flammability = 0

Physical Hazard = 0

Other hazards

Results of PBT and vPvB assessment

PBT: N/A

vPvB: N/A

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

CAS No. / Substance Name:

7440-67-7 Zirconium

Identification number(s):

EC number: 231-176-9

SECTION 4. FIRST AID MEASURES

Description of first aid measures

General information

No special measures required.

If inhaled:

Seek medical treatment in case of complaints.

In case of skin contact:

Generally the product does not irritate the skin.

In case of eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

If swallowed:

If symptoms persist consult doctor.

Information for doctor

Most important symptoms and effects, both acute and delayed

No data available

Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing agents

Special powder for metal fires. Do not use water.

For safety reasons unsuitable extinguishing agents

Water

Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Zirconium oxide

Advice for firefighters

Protective equipment:

No special measures required.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Not required.

Environmental precautions:

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

Do not allow product to enter drains, sewage systems, or other water courses.

Do not allow material to penetrate the ground or soil.

Methods and materials for containment and cleanup:

Pick up mechanically.
Prevention of secondary hazards:
No special measures required.
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.

SECTION 7. HANDLING AND STORAGE

Handling
Precautions for safe handling
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Information about protection against explosions and fires:
No special measures required.
Conditions for safe storage, including any incompatibilities
Requirements to be met by storerooms and receptacles:
No special requirements.
Information about storage in one common storage facility:
No data available
Further information about storage conditions:
Keep container tightly sealed.
Store in cool, dry conditions in well-sealed containers.
Specific end use(s)
No data available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems:
No further data; see section 7.
Control parameters
Components with limit values that require monitoring at the workplace:
7440-67-7 Zirconium (100.0%)
PEL (USA) Long-term value: 5 mg/m³ as Zr
REL (USA) Short-term value: 10 mg/m³
Long-term value: 5 mg/m³ as Zr
TLV (USA) Short-term value: 10 mg/m³
Long-term value: 5 mg/m³ as Zr
EL (Canada) Short-term value: 10 mg/m³
Long-term value: 5 mg/m³ as Zr

EV (Canada) Short-term value: 10 mg/m³
Long-term value: 5 mg/m³ as zirconium
Additional information: No data
Exposure controls
Personal protective equipment
Follow typical protective and hygienic practices for handling chemicals.
Maintain an ergonomically appropriate working environment.
Breathing equipment: Not required.
Protection of hands: Not required.
Penetration time of glove material (in minutes)
No data available
Eye protection: Safety glasses
Body protection: Protective work clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:

Form: Solid in various forms

Color: Grey to silver

Odor: Odorless

Odor threshold: No data available.

pH: N/A

Melting point/Melting range: 1855 °C (3371 °F)

Boiling point/Boiling range: 3580 °C (6476 °F)

Sublimation temperature / start: No data available

Flammability (solid, gas): No data available.

Ignition temperature: No data available

Decomposition temperature: No data available

Autoignition: No data available.

Danger of explosion: No data available.

Explosion limits:

Lower: No data available

Upper: No data available

Vapor pressure: N/A

Density at 20 °C (68 °F): 6.506 g/cm³ (54.293 lbs/gal)

Relative density: No data available.

Vapor density: N/A

Evaporation rate: N/A

Solubility in Water (H₂O): Soluble

Partition coefficient (n-octanol/water): No data available.

Viscosity:

Dynamic: N/A

Kinematic: N/A

Other information

No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

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

Conditions to avoid

No data available

Incompatible materials:

No data available

Hazardous decomposition products:

Zirconium oxide

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity: No effects known.

LD/LC50 values that are relevant for classification: No data

Skin irritation or corrosion: No irritant effect.

Eye irritation or corrosion: No irritant effect.

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:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity:
No data available
Persistence and degradability
No data available
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.
Do not allow undiluted product or large quantities to reach groundwater, water courses, or sewage systems.
Avoid transfer into the environment.
Results of PBT and vPvB assessment
PBT: N/A
vPvB: N/A
Other adverse effects
No data available

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.
Recommended cleansing agent:
Water, if necessary with cleansing agents.

SECTION 14. TRANSPORT INFORMATION

UN-Number
DOT, ADN, IMDG, IATA
N/A
UN proper shipping name
DOT, ADN, IMDG, IATA
N/A
Transport hazard class(es)
DOT, ADR, ADN, IMDG, IATA
Class
N/A
Packing group
DOT, IMDG, IATA
N/A
Environmental hazards:
N/A

Special precautions for user
N/A
Transport in bulk according to Annex II of
MARPOL73/78 and the IBC Code
N/A
Transport/Additional information:
DOT
Marine Pollutant (DOT):
No

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
All components of this product are listed on the Canadian Domestic Substances List (DSL).
SARA Section 313 (specific toxic chemical listings)
Substance is not listed.
California Proposition 65
Prop 65 - Chemicals known to cause cancer
Substance is not listed.
Prop 65 - Developmental toxicity
Substance is not listed.
Prop 65 - Developmental toxicity, female
Substance is not listed.
Prop 65 - Developmental toxicity, male
Substance is not listed.
Information about limitation of use:
For use only by technically qualified individuals
Other regulations, limitations and prohibitive regulations
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.
Substance is not listed.
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.
Substance is not listed.
Annex XIV of the REACH Regulations (requiring Authorisation for use)
Substance is not listed.
REACH - Pre-registered substances
Substance is listed.
Chemical safety assessment:
A Chemical Safety Assessment has not been carried out.

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.
