

## SAFETY DATA SHEET

Preparation Date: 7/19/2019

Revision date 7/19/2019

Revision Number: G1

### 1. IDENTIFICATION

**Product identifier**

**Product code:** Z1047  
**Product Name:** Zirconium, -50 Mesh Powder

**Other means of identification**

**Synonyms:** No information available  
**CAS #:** 7440-67-7  
**RTECS #** ZH7070000  
**CI#:** Not available

**Recommended use of the chemical and restrictions on use**

**Recommended use:** No information available.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
 14422 South San Pedro St.  
 Gardena, CA 90248  
 (310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>  
**Emergency telephone number** Chemtrec 1-800-424-9300  
**Contact Person:** Tom Tyner (USA - West Coast)  
**Contact Person:** Ibad Tirmiz (USA - East Coast)

### 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Flammable solids	Category 1
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**Label elements**

Flammable solid



**Hazards not otherwise classified (HNOC)**

Not Applicable

**Other hazards**

Catches fire spontaneously if exposed to air

**Precautionary Statements - Prevention**

Keep away from heat/sparks/open flames/hot surfaces. — No smoking

Ground container and receiving equipment

Use explosion-proof equipment

Wear protective gloves

Wear eye/face protection

Do not use water, CO2 or foam to extinguish fire.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS No	Weight-%
Zirconium	7440-67-7	100

**4. FIRST AID MEASURES**

**First aid measures**

**General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

**Skin Contact:** Brush off loose particles from skin. Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops.

**Eye Contact:** Flush eyes with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

**Inhalation:** Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** May cause eye/skin/respiratory tract irritation

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician:** Treat symptomatically.

**Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

**5. FIRE-FIGHTING MEASURES**

**Extinguishing Media**

**Suitable Extinguishing Media:** Special powder against metal fire. Class D fire extinguisher. Dry sand.

**Unsuitable Extinguishing Media:** Water. Foam. CO2. Halogenated extinguishing agents.

**Specific hazards arising from the chemical**

**Hazardous combustion products** No information available.

**Specific hazards** Flammable solid. Spontaneously combustible.

**Special Protective Actions for Firefighters**

**Specific Methods:** No information available

**Special Protective Equipment for Firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions:** Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Remove all sources of ignition.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas. Should not be released into the environment.

**Methods and material for containment and cleaning up**

**Methods for containment** Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

**Methods for cleaning up** Sweep up and shovel into suitable containers for disposal. Use only non-sparking tools. DO NOT use water. Clean contaminated surface thoroughly.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials.

**Safe Handling Advice:**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe vapors/dust. Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities**

**Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

**Incompatible Materials:**

Acids  
Hydrofluoric acid  
Strong oxidizing agents

Bromine  
 Iodine  
 Fluorine  
 Chlorine  
 halogenated hydrocarbons  
 Potassium nitrate

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**National occupational exposure limits**

**United States**

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
Zirconium	7440-67-7	None	5 mg/m <sup>3</sup> TWA 10 mg/m <sup>3</sup> STEL	10 mg/m <sup>3</sup> STEL 5 mg/m <sup>3</sup> TWA	None

**Canada**

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Zirconium	7440-67-7	5 mg/m <sup>3</sup> TWA 10 mg/m <sup>3</sup> STEL	5 mg/m <sup>3</sup> TWA 10 mg/m <sup>3</sup> STEL	10 mg/m <sup>3</sup> STEL	None

**Australia and Mexico**

Component	CAS No	Australia	Mexico
Zirconium	7440-67-7	10 mg/m <sup>3</sup> STEL 5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA 10 mg/m <sup>3</sup> STEL

**Appropriate engineering controls**

**Engineering measures to reduce exposure:**

Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Individual protection measures, such as personal protective equipment**

**Personal Protective Equipment**

- Eye protection:** Safety glasses with side-shields. or Goggles
- Skin and body protection:** Chemical resistant apron  
Gloves  
Long sleeved clothing
- Respiratory protection:** Effective dust mask. or. Wear respirator with dust filter. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds) , inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.
- Hygiene measures:** Avoid contact with skin, eyes and clothing. Wash hands before breaks and

immediately after handling the product When using, do not eat, drink or smoke.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Solid	<b>Appearance:</b> Metal. Powder.	<b>Color:</b> Grayish White. Black.
<b>Odor:</b> Odorless.	<b>Taste</b> No information available.	<b>Formula</b> Zr
<b>Molecular/Formula weight (g/mole):</b> 91.22	<b>Flammability (solid, gas)</b> Flammable	<b>Flashpoint (°C/°F):</b> No information available
<b>Flash Point Tested according to:</b> Not available	<b>Autoignition Temperature (°C/°F):</b> No information available	<b>Lower Explosion Limit (%):</b> No information available
<b>Upper Explosion Limit (%):</b> No information available	<b>Melting point/range(°C/°F):</b> 1852°C/3365.6°F	<b>Decomposition temperature(°C/°F):</b> No information available
<b>Boiling point/range(°C/°F):</b> No information available	<b>Bulk density:</b> No information available	<b>Density (g/cm3):</b> No information available
<b>Specific gravity:</b> 6.5	<b>pH</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> No information available
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> No information available	<b>VOC content (g/L):</b> No information available
<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> No information available	<b>Viscosity:</b> No information available
<b>Miscibility:</b> No information available	<b>Solubility:</b> Insoluble in cold water Insoluble in hot water	

## 10. STABILITY AND REACTIVITY

### Reactivity

No information available

### Chemical stability

**Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Incompatible materials. Avoid dust formation. Dust may form explosive mixture in air. Heat. Ignition sources.

**Incompatible Materials:** Acids  
Hydrofluoric acid  
Strong oxidizing agents  
Bromine  
Iodine  
Fluorine  
Chlorine  
halogenated hydrocarbons  
Potassium nitrate

**Hazardous decomposition products:** No information available.

**Other Information Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Principal Routes of Exposure:**

Ingestion. Inhalation.

### Acute Toxicity

#### Component Information

Zirconium
CAS No 7440-67-7

- LD50/oral/rat = No information available
- LD50/oral/mouse = No information available
- LD50/dermal/rabbit = No information available
- LD50/dermal/rat = No information available
- LC50/inhalation/rat = No information available
- LC50/inhalation/mouse = No information available
- Other LD50 or LC50 information = No information available

#### Product Information

LD50/oral/rat =  
Value - Acute Toxicity = No information available

LD50/oral/mouse =  
Value - Acute Tox = No information available

LD50/dermal/rabbit  
Value - Acute Toxicity = No information available

LD50/dermal/rat  
VALUE - Acute Tox = No information available

LC50/inhalation/rat  
VALUE-Vapor = No information available  
VALUE-Gas = No information available  
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse  
VALUE-Vapor = No information available  
VALUE - Gas = No information available  
VALUE - Dust/Mist = No information available

### Symptoms

**Product code:** Z1047

**Product name:** Zirconium, -50 Mesh Powder

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**Skin Contact:** May cause skin irritation.  
**Eye Contact:** May cause eye irritation.  
**Inhalation** May cause irritation of respiratory tract.  
**Ingestion** No information available.  
**Aspiration hazard** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Chronic Toxicity** No information available.  
**Sensitization:** No information available.  
**Mutagenic Effects:** No information available

**Carcinogenic effects:** May cause cancer based on animal test data.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Zirconium	7440-67-7	Not listed	A4 Not Classifiable as a Human Carcinogen	Not listed	Not listed	Not listed	Not listed

*ACGIH (American Conference of Governmental Industrial Hygienists)*

*IARC (International Agency for Research on Cancer)*

*NTP (National Toxicology Program)*

*OSHA (Occupational Safety and Health Administration of the US Department of Labor)*

**Reproductive toxicity** No data is available

**Reproductive Effects:** No information available  
**Developmental Effects:** No information available  
**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available.  
**STOT - repeated exposure** No information available.  
**Target Organs:** No information available.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** No data available.

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available.  
**Mobility in soil** No information available  
**Other adverse effects** No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Disposal Methods

**Waste from residues / unused products:**

Waste must be disposed of in accordance with Federal, State and Local regulation.

**Contaminated packaging:**

Empty containers should be taken for local recycling, recovery or waste disposal

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Zirconium	7440-67-7	None	None	None	None

### 14. TRANSPORT INFORMATION

**DOT**

**UN-No:** UN2008  
**Proper Shipping Name:** Zirconium powder, dry  
**Hazard Class** 4.2  
**Subsidiary Class** No information available  
**Packing group:** III  
**Emergency Response Guide Number** 135  
**Marine Pollutant** No data available  
**DOT RQ (lbs):** No information available  
**Special Provisions** B135, IB8, IP4, T1, TP33, W31  
**Symbol(s):** No information available  
**Description:** UN2008, Zirconium powder, dry, 4.2, III

**TDG (Canada)**

**UN-No:** UN2008  
**Proper Shipping Name:** Zirconium powder, dry  
**Hazard Class** 4.2  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Marine Pollutant** No Information available  
**Description:** UN2008, Zirconium powder, dry, 4.2, III

**ADR**

**UN Number** UN2008  
**Proper Shipping Name:** Zirconium powder, dry  
**Transport hazard class(es)** 4.2  
**Packing group** III  
**Subsidiary Risk:** No information available  
**Special Provisions** 524, 540  
**Description:** UN2008, Zirconium powder, dry, 4.2, III

**IMDG**

**UN-No:** UN2008  
**Proper Shipping Name:** Zirconium powder, dry



**Hazard Class:** 4.2  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Marine Pollutant:** No information available  
**EMS:** F-G  
**Special Provisions:** 223  
**Description:** UN2008, Zirconium powder, dry, 4.2, III

**RID**

**UN Number:** UN2008  
**Proper Shipping Name:** Zirconium powder, dry  
**Transport hazard class(es):** 4.2  
**Subsidiary Risk:** No information available  
**Packing group:** III  
**Special Provisions:** 524, 540  
**Description:** UN2008, Zirconium powder, dry, 4.2, III

**ICAO (air)**

**UN-No:** UN2008  
**Proper Shipping Name:** Zirconium powder, dry  
**Hazard Class:** 4.2  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** UN2008, Zirconium powder, dry, 4.2, III  
**Special Provisions:** A3

**IATA**

**UN Number:** UN2008  
**Proper Shipping Name:** Zirconium powder, dry  
**Transport hazard class(es):** 4.2  
**Subsidiary Risk:** No information available  
**Packing group:** III  
**Precautionary Statements - Response:** 4L  
**Special Provisions:** No information available  
**Description:** UN2008, Zirconium powder, dry, 4.2, III

<b>15. REGULATORY INFORMATION</b>
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**International Inventories**

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia (AICS)	EINECS-No.
Zirconium	7440-67-7	Present ACTIVE	Present KE-35607	Present	Not present	Present	Present	Present 231-176-9

**U.S. Regulations**

*Zirconium*

**Massachusetts RTK:** Present  
**New Jersey RTK Hazardous Substance List:** 2047  
**Pennsylvania RTK:** Present  
**California Directors List of Hazardous Substances:** Present

**California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.**

**Chemicals Known to the State of California to Cause Cancer:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

**Chemicals Known to the State of California to Cause Reproductive Toxicity:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Zirconium	7440-67-7	Not Listed	Not Listed	Not Listed	Not Listed

**CERCLA/SARA**

Component	CAS No	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Zirconium	7440-67-7	None	None	None	None	None

**U.S. TSCA**

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Zirconium	7440-67-7	Not Applicable	Not Applicable

**Canada****WHMIS 2015 - GHS Classifications**

WHMIS 2015 Hazard Classification Information:

Not a dangerous product according to HPR classification criteria.

Component  
Zirconium  
7440-67-7 ( 100 )

WHMIS 2015 Hazard Classification  
Flammable solids - Undefined: Flammable solids - undefined category (powder); Flammable solids - Category 2: H228 Flammable solid.; Pyrophoric solids - Category 1: H250 Catches fire spontaneously if exposed to air. (powder); Self-heating substances and mixtures - Category 2: H252 Self-heating in large quantities, may catch fire.; Substances and mixtures which in contact with water emit flammable gases - Undefined: Substances which in contact with water emit flammable gases - undefined category (powder); Combustible Dust - Category 1: May form combustible dust concentrations in air (if 5% or more by weight of its composition has a particle size <500 µm)

**Canada Hazardous Products Regulation** This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

**DSL/NDSL**

Component	CAS No	Canada (DSL)	Canada (NDSL)
Zirconium	7440-67-7	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
Zirconium	7440-67-7	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Zirconium	7440-67-7	Not listed

**EU Classification**

Component	CAS No	EU GHS - SV - CLP (1272/2008)
Zirconium	7440-67-7	Pyrophoric solids - Pyr. Sol. 1: H250 Catches fire spontaneously if exposed to air.; Substances and mixtures which in contact with water emit flammable gases - Water-react. 1: H260 In contact with water releases flammable gases which may ignite spontaneously.040-001-00-3

## EU - CLP (1272/2008)

**R-phrase(s)**

R15 - Contact with water liberates extremely flammable gases

R17 - Spontaneously flammable in air

**S -phrase(s)**

S 2 - Keep out of the reach of children.

S43 - In case of fire use Dry Chemical powder, Dry Sand. Never use water

S 7/8 - Keep container tightly closed and dry.

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
Zirconium	7440-67-7	F; R15-17	No information	S: (2)-7/8-43

The product is classified in accordance with Annex VI to Directive 67/548/EEC

**Indication of danger:**

F - Highly flammable

**16. OTHER INFORMATION**

Preparation Date: 7/19/2019  
Revision date 7/19/2019  
Prepared by: Sonia Owen

**Disclaimer:**

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**