SAFETY DATA SHEET

Product Name: Zinc Metal Powder
Cat No.: Z5-500; Z46-3
Synonyms: Zinc Dust (Certified/Technical)
Recommended Use: Laboratory chemicals.
Uses advised against: Not for food, drug, pesticide or biocidal product use

Emergency Telephone Number
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

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

| Substances/mixtures which, in contact with water, emit flammable gases | Category 1 |
| Pyrophoric solids | Category 1 |
| Combustible dust | Yes |

Label Elements
Signal Word: Danger

Hazard Statements
May form combustible dust concentrations in air
In contact with water releases flammable gases which may ignite spontaneously
Catches fire spontaneously if exposed to air
Precautionary Statements
Prevention
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Do not allow contact with air
Wear protective gloves/protective clothing/eye protection/face protection
Keep away from any possible contact with water, because of violent reaction and possible flash fire
Handle under inert gas. Protect from moisture
Skin
Brush off loose particles from skin. Immerse in cool water/wrap with wet bandages
Fire
In case of fire: Use CO2, dry chemical, or foam for extinction
Storage
Store under an inert atmosphere
Store in a dry place. Store in a closed container
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
Very toxic to aquatic life with long lasting effects

3. Composition / information on ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc powder - zinc dust (pyrophoric)</td>
<td>7440-66-6</td>
<td>100</td>
</tr>
</tbody>
</table>

4. First-aid measures

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Inhalation
Move to fresh air. If breathing is difficult, give oxygen. Get medical attention if symptoms occur.

Ingestion
Do not induce vomiting. Obtain medical attention.

Most important symptoms/effects
No information available.

Notes to Physician
Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media
Dry sand, clay, approved class D extinguishers.

Unsuitable Extinguishing Media
DO NOT USE WATER, Carbon dioxide (CO2), Dry chemical, Foam

Flash Point Method -
No information available

Autoignition Temperature
460 °C / 860 °F

Explosion Limits
Upper
No data available
Lower
No data available

Sensitivity to Mechanical Impact
No information available

Sensitivity to Static Discharge
No information available
Specific Hazards Arising from the Chemical
Flammable. Fine dust dispersed in air may ignite. Pyrophoric: Spontaneously flammable in air. Water reactive. Contact with water liberates extremely flammable gases. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products
Hydrogen

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

NFPA

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>3</td>
<td>W</td>
</tr>
</tbody>
</table>

6. Accidental release measures

Personal Precautions
Use personal protective equipment. Remove all sources of ignition. Avoid dust formation. Take precautionary measures against static discharges. Do not get in eyes, on skin, or on clothing.

Environmental Precautions
Should not be released into the environment. See Section 12 for additional ecological information.

Methods for Containment and Clean Up
Remove all sources of ignition. Do not expose spill to water. Sweep up or vacuum up spillage and collect in suitable container for disposal. Use spark-proof tools and explosion-proof equipment. Avoid dust formation.

7. Handling and storage

Handling
Use only under a chemical fume hood. Wear personal protective equipment. Avoid dust formation. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. Handle under an inert atmosphere. Do not allow contact with air. Do not allow contact with water. Keep away from open flames, hot surfaces and sources of ignition. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Store under an inert atmosphere. Keep away from heat and sources of ignition. Keep away from water.

8. Exposure controls / personal protection

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures
Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Light blue</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>419 °C / 786.2 °F</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>908 °C / 1666.4 °F</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>1 mmHg @ 487 °C</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No information available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>7.14</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water</td>
</tr>
<tr>
<td>Partition coefficient; n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>460 °C / 860 °F</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No information available</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>Zn</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>65.37</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

- Reactive Hazard: Yes
- Conditions to Avoid: Avoid dust formation. Incompatible products. Exposure to air. Exposure to moist air or water. Keep away from open flames, hot surfaces and sources of ignition.
- Incompatible Materials: Strong oxidizing agents, Strong acids, Strong bases, Amines
- Hazardous Decomposition Products: Hydrogen
- Hazardous Polymerization: Hazardous polymerization does not occur.
- Hazardous Reactions: Contact with water liberates extremely flammable gases. Pyrophoric: Spontaneously flammable in air.

11. Toxicological information

- Acute Toxicity: No acute toxicity information is available for this product
- Product Information: No information available
- Component Information: No information available
- Toxicologically Synergistic Products: No information available
- Delayed and immediate effects as well as chronic effects from short and long-term exposure: No information available
- Irritation: No information available
- Sensitization: No information available
### Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
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</thead>
<tbody>
<tr>
<td>Zinc powder - zinc dust (pyrophoric)</td>
<td>7440-66-6</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

**Mutagenic Effects**
No information available

**Reproductive Effects**
No information available.

**Developmental Effects**
No information available.

**Teratogenicity**
No information available.

**STOT - single exposure**
None known

**STOT - repeated exposure**
None known

**Aspiration hazard**
No information available

**Symptoms / effects, both acute and delayed**
No information available

**Endocrine Disruptor Information**
No information available

**Other Adverse Effects**
Tumorigenic effects have been reported in experimental animals. See actual entry in RTECS for complete information.

### Ecotoxicity

This product contains the following substance(s) which are hazardous for the environment.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc powder - zinc dust (pyrophoric)</td>
<td>EC50: 0.09 - 0.125 mg/L, 72h static (Pseudokirchneriella subcapitata)</td>
<td>LC50: = 0.41 mg/L, 96h static (Oncorhynchus mykiss)</td>
<td>Not listed</td>
<td>EC50: 0.139 - 0.908 mg/L, 48h Static (Daphnia magna)</td>
</tr>
<tr>
<td></td>
<td>EC50: 0.11 - 0.271 mg/L, 96h static (Pseudokirchneriella subcapitata)</td>
<td>LC50: = 0.59 mg/L, 96h semi-static (Oncorhynchus mykiss)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50: = 0.24 mg/L, 96h flow-through (Oncorhynchus mykiss)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50: = 3.5 mg/L, 96h static (Lepomis macrochirus)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50: = 7.8 mg/L, 96h static (Cyprinus carpio)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50: = 0.45 mg/L, 96h semi-static (Cyprinus carpio)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50: = 2.66 mg/L, 96h static (Pimephales promelas)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50: = 0.211 - 0.269 mg/L, 96h semi-static (Pimephales promelas)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50: = 2.16 - 3.05 mg/L, 96h flow-through (Pimephales promelas)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Persistence and Degradability**
No information available

**Bioaccumulation/ Accumulation**
No information available.
13. Disposal considerations

Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

<table>
<thead>
<tr>
<th>DOT</th>
<th>UN-No</th>
<th>UN1436</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>ZINC POWDER</td>
<td></td>
</tr>
<tr>
<td>Hazard Class</td>
<td>4.3</td>
<td></td>
</tr>
<tr>
<td>Subsidiary Hazard Class</td>
<td>4.2</td>
<td></td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
<td></td>
</tr>
<tr>
<td>TDG</td>
<td>UN-No</td>
<td>UN1436</td>
</tr>
<tr>
<td>Proper Shipping Name</td>
<td>ZINC POWDER</td>
<td></td>
</tr>
<tr>
<td>Hazard Class</td>
<td>4.3</td>
<td></td>
</tr>
<tr>
<td>Subsidiary Hazard Class</td>
<td>4.2</td>
<td></td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
<td></td>
</tr>
<tr>
<td>IATA</td>
<td>UN-No</td>
<td>UN1436</td>
</tr>
<tr>
<td>Proper Shipping Name</td>
<td>ZINC POWDER</td>
<td></td>
</tr>
<tr>
<td>Hazard Class</td>
<td>4.3</td>
<td></td>
</tr>
<tr>
<td>Subsidiary Hazard Class</td>
<td>4.2</td>
<td></td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
<td></td>
</tr>
<tr>
<td>IMDG/IMO</td>
<td>UN-No</td>
<td>UN1436</td>
</tr>
<tr>
<td>Proper Shipping Name</td>
<td>ZINC POWDER</td>
<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
<td></td>
</tr>
</tbody>
</table>

15. Regulatory information

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc powder - zinc dust (pyrophoric)</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>231-175-3</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Legend:

- X - Listed
- E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
- F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
- N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
- P - Indicates a commenced PMN substance
- R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
- S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
- T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
- XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).
- Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
- Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) | Not applicable

SARA 313
# Zinc Metal Powder

### SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### CWA (Clean Water Act)

<table>
<thead>
<tr>
<th>Component</th>
<th>CWA - Hazardous Substances</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc powder - zinc dust (pyrophoric)</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

### Clean Air Act

Not applicable

### OSHA

Occupational Safety and Health Administration
Not applicable

### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Component</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA EHS RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc powder - zinc dust (pyrophoric)</td>
<td>1000 lb</td>
<td>-</td>
</tr>
</tbody>
</table>

### California Proposition 65

This product does not contain any Proposition 65 chemicals

### U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc powder - zinc dust (pyrophoric)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

### U.S. Department of Transportation

- Reportable Quantity (RQ): N
- DOT Marine Pollutant: N
- DOT Severe Marine Pollutant: N

### U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

### Other International Regulations

- Mexico - Grade: No information available

### 16. Other information

Prepared By

Regulatory Affairs  
Thermo Fisher Scientific  
Email: EMSDS.RA@thermofisher.com

Creation Date 02-Jun-2010  
Revision Date 23-May-2017  
Print Date 23-May-2017  
Revision Summary  
This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).
Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS