

# SAFETY DATA SHEET

Creation Date 02-Jun-2010

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Revision Number 6

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

## 1. Identification

**Product Name** Zinc powder

**Cat No. :** 00424

**CAS No** 7440-66-6  
**Synonyms** Zinc Dust

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

### Details of the supplier of the safety data sheet

#### Company

Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757

#### **Emergency Telephone Number**

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

## 2. Hazard(s) identification

### Classification

This chemical is considered hazardous according to [US] OSHA (29 CFR 1910.1200, 2024)

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, hot surfaces, sparks, open flames and other ignition sources. No smoking

Do not allow contact with air

Wear protective gloves/protective clothing/eye protection/face protection

Do not allow contact with water

Handle and store contents under inert gas. Protect from moisture

#### Skin

IF ON SKIN: Brush off loose particles from skin. Immerse in cool water or wrap in wet bandages

#### Fire

In case of fire: Use fire-fighting equipment on basis class D to extinguish

Dry sand

#### 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

#### Hazards classified under paragraph (d)(1)(ii) of 1910.1200

#### Hazards resulting from a reaction with other chemicals under normal conditions of use

Produce flammable gases on contact with water.

### 3. Composition/information on Ingredients

Component	CAS No	Weight %
Zinc powder - zinc dust (pyrophoric)	7440-66-6	100

### 4. First-aid measures

<b>General Advice</b>	If symptoms persist, call a physician.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
<b>Inhalation</b>	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

<b>Most important symptoms and effects</b>	None reasonably foreseeable.
<b>Notes to Physician</b>	Treat symptomatically

## 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Dry sand, clay, approved class D extinguishers.
<b>Unsuitable Extinguishing Media</b>	DO NOT USE WATER, Carbon dioxide (CO <sub>2</sub> ), Dry chemical, Foam
<b>Flash Point</b>	No information available
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	460 °C / 860 °F
<b>Explosion Limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	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. Do not allow run-off from fire-fighting to enter drains or water courses.

### 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

Health	Flammability	Instability	Physical hazards
1	4	3	W

## 6. Accidental release measures

<b>Personal Precautions</b>	Use personal protective equipment as required. Avoid dust formation. Ensure adequate ventilation.
<b>Environmental Precautions</b>	Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Do not flush into surface water or sanitary sewer system.
<b>Methods for Containment and Clean Up</b>	Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

## 7. Handling and Storage

<b>Handling</b>	Wear personal protective equipment/face protection. Avoid dust formation. Avoid ingestion and inhalation. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing.
<b>Storage.</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Store under an inert atmosphere. Keep away from heat, sparks and flame. Keep away from water or moist air. Incompatible Materials. Strong oxidizing agents. Strong acids. Strong bases. Amines.

## 8. Exposure controls / personal protection

<b>Exposure Guidelines</b>	This product does not contain any hazardous materials with occupational exposure
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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.

**Recommended Filter type:**

Particulates filter conforming to EN 143.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

**Appearance****Physical State**

Solid

**Color**

Light blue

**Odor**

Odorless

**Odor Threshold**

No information available

**Property****Values****Remarks****Method****Melting Point/Range**

419 °C / 786.2 °F

**Softening Point**

No data available

**Boiling Point/Range**

908 °C / 1666.4 °F

**Flash Point**

No information available

**Method -** No information available

**Flammability (liquid)**

Not applicable

Solid

**Flammability (solid,gas)**

No information available

**Explosion Limits**

No data available

**Autoignition Temperature**

460 °C / 860 °F

**Decomposition Temperature**

No data available

**pH**

No information available

**Viscosity**

Not applicable

Solid

**Water Solubility**

Insoluble

**Solubility in other solvents**

No information available

**Partition Coefficient (n-octanol/water)****Vapor Pressure**

1 mmHg @ 487 °C

**Density / Specific Gravity**

7.14

**Bulk Density**

No data available

**Vapor Density**

Not applicable

Solid

**Particle characteristics**

No data available

**Other Information****Molecular Formula**

Zn

**Molecular Weight**

65.37

**Substances/mixtures which, in contact with water, emit flammable gases**

Emitted gas ignites spontaneously  
Gas(es) = Hydrogen

**Evaporation Rate** Not applicable - Solid

## 10. Stability and reactivity

**Reactive Hazard** Yes

**Stability** Water reactive. Moisture sensitive. Air sensitive. Pyrophoric: Spontaneously flammable in air.

**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** None under normal processing.

## 11. Toxicological information

### Information on expected route of exposure

**Inhalation** Not an expected route of exposure.  
**Ingestion** May be harmful if swallowed.  
**Eyes** Avoid contact with eyes.  
**Skin** Avoid contact with skin.

### Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Zinc powder - zinc dust (pyrophoric)	LD50 > 2000 mg/kg bw (Rat) OECD 401	-	LC50 > 5.41 g Zn/m <sup>3</sup> air (rat) OECD 403 (highest attainable concentration)

**Toxicologically Synergistic Products** No information available

**(b) skin corrosion/irritation;** Based on available data, the classification criteria are not met

**(c) serious eye damage/irritation;** Based on available data, the classification criteria are not met

**(d) respiratory or skin sensitization;**  
**Respiratory** Based on available data, the classification criteria are not met  
**Skin** Based on available data, the classification criteria are not met

**(e) germ cell mutagenicity;** Based on available data, the classification criteria are not met

**(f) carcinogenicity;** Based on available data, the classification criteria are not met

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

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Zinc powder - zinc dust (pyrophoric)	7440-66-6	Not listed				

<b>(g) reproductive toxicity;</b>	Based on available data, the classification criteria are not met
<b>(h) STOT-single exposure;</b>	Based on available data, the classification criteria are not met
<b>(i) STOT-repeated exposure;</b>	Based on available data, the classification criteria are not met
<b>Target Organs</b>	None known.
<b>(j) aspiration hazard;</b>	Not applicable Solid
<b>Other Adverse Effects</b>	Tumorigenic effects have been reported in experimental animals.
<b>Symptoms / effects,both acute and delayed</b>	No information available.
<b>Other Adverse Effects</b>	Tumorigenic effects have been reported in experimental animals.
<b>Endocrine Disrupting Properties</b>	This product does not contain any known or suspected endocrine disruptors.

## 12. Ecological information

### Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Zinc powder - zinc dust (pyrophoric)	EC50: 0.09 - 0.125 mg/L, 72h static (Pseudokirchneriella subcapitata) EC50: 0.11 - 0.271 mg/L, 96h static (Pseudokirchneriella subcapitata)	LC50: = 0.41 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 0.59 mg/L, 96h semi-static (Oncorhynchus mykiss) LC50: 2.16 - 3.05 mg/L, 96h flow-through (Pimephales promelas) LC50: 0.211 - 0.269 mg/L, 96h semi-static (Pimephales promelas) LC50: = 2.66 mg/L, 96h static (Pimephales promelas) LC50: = 30 mg/L, 96h (Cyprinus carpio) LC50: = 0.45 mg/L, 96h semi-static (Cyprinus carpio) LC50: = 7.8 mg/L, 96h static (Cyprinus carpio) LC50: = 0.24 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: = 3.5 mg/L, 96h static (Lepomis macrochirus)	Not listed	EC50: 0.139 - 0.908 mg/L, 48h Static (Daphnia magna)

<b>Persistence and Degradability</b>	Insoluble in water
<b>Bioaccumulation/ Accumulation</b>	No information available.
<b>Mobility</b>	Is not likely mobile in the environment due its low water solubility.

### 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

**DOT**

UN-No UN1436  
 Proper Shipping Name ZINC POWDER  
 Hazard Class 4.3  
 Subsidiary Hazard Class 4.2  
 Packing Group II

**TDG**

UN-No UN1436  
 Proper Shipping Name ZINC POWDER  
 Hazard Class 4.3  
 Subsidiary Hazard Class 4.2  
 Packing Group II

**IATA**

UN-No UN1436  
 Proper Shipping Name ZINC POWDER  
 Hazard Class 4.3  
 Subsidiary Hazard Class 4.2  
 Packing Group II

**IMDG/IMO**

UN-No UN1436  
 Proper Shipping Name ZINC POWDER  
 Hazard Class 4.3  
 Subsidiary Hazard Class 4.2  
 Packing Group II

### 15. Regulatory Information

**United States of America Inventory**

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Zinc powder - zinc dust (pyrophoric)	7440-66-6	X	ACTIVE	-

**Legend:**

**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)** Not applicable

**TSCA 12(b) - Notices of Export** Not applicable

Component	CAS No	TSCA 12(b) - Notices of Export
Zinc powder - zinc dust (pyrophoric)	7440-66-6	Section 6

**International Inventories**

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Zinc powder - zinc dust	7440-66-6	X	-	231-175-3	X	X		X	X	KE-35518

(pyrophoric)									
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KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

### U.S. Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Component	CAS No	Weight %	SARA 313 - Threshold Values %	SARA 313 - Reporting thresholds
Zinc powder - zinc dust (pyrophoric)	7440-66-6	100	1.0 %	-

#### SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

#### CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Zinc powder - zinc dust (pyrophoric)	-	-	X	X

**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) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

Component	Hazardous Substances RQs	CERCLA Extremely Hazardous Substances RQs	SARA Reportable Quantity (RQ)
Zinc powder - zinc dust (pyrophoric)	1000 lb	-	454 kg 1000 lb

**California Proposition 65** This product does not contain any Proposition 65 chemicals.

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

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Zinc powder - zinc dust (pyrophoric)	X	X	X	-	X

#### U.S. Department of Transportation

Reportable Quantity (RQ): Y  
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

Authorisation/Restrictions according to EU REACH Not applicable

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Zinc powder - zinc dust (pyrophoric)	7440-66-6	-	Use restricted. See entry 75. (see link for restriction details)	-

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

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Zinc powder - zinc dust (pyrophoric)	7440-66-6	Listed	Not applicable	Not applicable	Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Other International Regulations

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Zinc powder - zinc dust (pyrophoric)	7440-66-6	Not applicable	Not applicable	Not applicable	Not applicable

## 16. Other Information

**Prepared By** Health, Safety and Environmental Department  
Email: chem.techinfo@thermofisher.com  
www.thermofisher.com

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**Revision Summary** Updated to the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) which published its Final Rule in the Federal Register revising the Hazard Communication Standard (HCS/HazCom), 29 CFR 1910.1200 (2024) (HCS §1910.1200, 2024), May 20, 2024, effective July 19, 2024.

### 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**