

SAFETY DATA SHEET

Date Accessed: 04/27/2024

Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Name: Zinc-66 Metal Isotope

Product Number: All applicable American Elements product codes, e.g. ZN-M-01-ISO.066I

CAS #: 14378-33-7

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:

+1 800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substances or mixture:

The mixture is classified according to: Regulation EC 1272/2008 [EU-GHS/CLP]

Hazard classes/Hazard categories: Hazard statement:

Pyrophoric Solid (Category 1) H250

Water-Reactive (Category 1) H260

Aquatic Acute (Category 1) H400

Aquatic Chronic (Category 1) H410



Signal Words: Danger.

Hazard Statements:

H250 Catches fire spontaneously if exposed to air.

H260 In contact with water releases flammable gases which may ignite spontaneously.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P222 Do not allow contact with air.

P231 + P232 Handle and store contents under inert gas. Protect from moisture.
P223 Do not allow contact with water.
P233 Keep container tightly closed.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing.
P302 + P334 IF ON SKIN: Immerse in cool water or wrap in wet bandages.
P391 Collect spillage.
Other hazards: None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance name (IUPAC/EC):
Zinc Metal Isotope

SECTION 4. FIRST AID MEASURES

Description of first aid measures:

In case of inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact: Wash off with soap and plenty of water. Consult a physician.

In case of eye contact: Flush eyes with water as a precaution.

In case of ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed:

Inhalation: May be harmful if inhaled; may cause respiratory tract irritation.

Eyes: May cause eye irritation.

Skin contact: May be harmful if absorbed through skin; may cause skin irritation.

Ingestion: May be harmful if swallowed.

Indication of any immediate medical attention and special treatment needed: Treat symptomatically.

Show this safety data sheet to a physician or emergency room.

SECTION 5. FIREFIGHTING MEASURES

Extinguisher media:

Suitable extinguisher media: Dry sand, clay, approved class D extinguishers.

Unsuitable extinguishing media: Water spray.

Special hazards arising from the mixture: 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 vapours. Keep product and empty container away from heat and sources of ignition.

Advice for fire-fighters: Wear self-contained breathing apparatus for firefighting if necessary.

Further information: Use water spray to cool unopened containers.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Personal precautions: Avoid dust formation. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

Environmental precautions: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.

Local authorities should be advised if significant spillages cannot be contained.

Methods for containment and cleaning up:

Methods for cleaning up: Pick up and arrange disposal without creating dust. Do not flush with water.

Keep in

suitable, closed containers for disposal.

Reference to other sections:

Treat recovered material as described in the section "Disposal considerations".

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:

Advice on safe handling: Provide appropriate exhaust ventilation at places where dust is formed.

Further processing

of solid materials may result in the formation of combustible dusts. Keep away from sources of ignition.

Provide appropriate exhaust at places where dust is formed.

Hygiene measures: Do not eat, drink or smoke when using this product.

Conditions for safe storage, including incompatibilities:

Requirements for storage areas and containers: Store in cool place. Keep container tightly closed in a dry and wellventilated place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits: Contains no substances with occupational exposure limit values.

Exposure controls:

Appropriate engineering controls: Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Face shield and safety glasses: Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Hand protection: The selected protective gloves must satisfy the specifications of EU Directive 89/686/EEC and the

standard EN 374 derived from it. Handle product with gloves.

Body protection: Choose body protection according to the amount and concentration of the dangerous substance at the workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle

respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (form): Solid (powder).
Colour: Grey.
Odour: Odourless.
Odour threshold: No data available.
Molecular Weight: 65.39
pH (concentration): No data available.
Melting point/range (°C): 419 °C
Boiling point/range (°C): 907 °C
Freezing point (°C): No data available.
Flash point (°C): No data available.
Evaporation rate: No data available.
Flammability (solid, gas): The substance is a flammable solid.
Ignition temperature (°C): No data available.
Upper/lower flammability/explosive limits: No data available.
Vapour pressure (20 °C): No data available
Vapour density: 7133 g/mL at 25 °C
Relative density (25 °C): No data available.
Water solubility (g/L) at 20 °C: Insoluble.
n-Octanol/Water partition coefficient: No data available.
Auto-ignition temperature: No data available.
Decomposition temperature: No data available.
Viscosity, dynamic (mPa s): No data available.
Explosive properties: During processing, dust may form explosive mixture in air.
Oxidising properties: The substance or mixture is not classified as oxidizing.

SECTION 10. STABILITY AND REACTIVITY

Reactivity: No dangerous reaction known under conditions of normal use.
Chemical stability: Water-reactive, moisture-sensitive, air-sensitive, pyrophoric: spontaneously flammable in air.
Possibility of hazardous reactions: Reacts violently with water.
Conditions to avoid: Heat, flames and sparks, moisture, dust formation.
Incompatible materials: Strong acids and oxidizing agents.
Hazardous decomposition products: Zinc/zinc oxides, zinc oxide fumes.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects:
Not classified based on available information.
Classification according to GHS (1272/2008/EG, CLP)
Skin corrosion/irritation:
Not classified based on available information.
Serious eye damage/eye irritation:
Not classified based on available information.
Respiratory or skin sensitisation:
Not classified based on available information.
Germ cell mutagenicity:
Not classified based on available information.
Carcinogenicity:
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a

probable,
possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity:
Not classified based on available information.
Specific target organ toxicity – single exposure (STOT):
Not classified based on available information.
Specific target organ toxicity (STOT) – repeated exposure:
Not classified based on available information.
Aspiration toxicity:
Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity:
Toxicity to Fish: LC50 – Cyprinus carpio (carp) – 450 ug/l – 96 h
Toxicity to Daphnia and Other Aquatic Invertebrates: LC50 – Daphnia magna (water flea) – 0.068 mg/l – 48 h
Mortality NOEC – Daphnia (water flea) 0.101 – 0.14 mg/l – 7 d
Persistence and degradability: No data available.
Bioaccumulative potential: Bioaccumulation: Algae – 7 d at 16 °C – 5 ug/l. Bioconcentration Factor (BCF): 466
Mobility in soil: No data available.
Results of PBT& vPvB assessment: Not relevant.
Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life, with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods: Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all local and national environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

SECTION 14. TRANSPORT INFORMATION

DOT:
Proper Shipping Name: ZINC POWDER.
Hazard Class: 4.3
Subsidiary Hazard Class: 4.2
UN Number: 1436
Packing Group: II

Hazard Label:
TDG:
Proper Shipping Name: ZINC POWDER.
Hazard Class: 4.3
Subsidiary Hazard Class: 4.2
UN Number: 1436
Packing Group: II
IATA:
Proper Shipping Name: ZINC POWDER.
Hazard Class: 4.3
Subsidiary Hazard Class: 4.2
UN Number: 1436
Packing Group: II
IMDG:
Proper Shipping Name: ZINC POWDER.
Hazard Class: 4.3
Subsidiary Hazard Class: 4.2
UN Number: 1436
Packing Group: II

SECTION 15. REGULATORY INFORMATION

EU regulations:
Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended
Not listed.
Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I
Not listed.
Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended
Not listed.
Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended
Not listed.
Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended
Not listed.
Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended
Not listed.
Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry
Not listed.
Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA
Not listed.
Authorisations:
Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended
Not listed.
Restrictions on use:
Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use
Not regulated.

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended
Not listed.

Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens and mutagens at work

Not regulated.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding.

Not regulated.

Other EU regulations:

Directive 2012/18/EU on major accident hazards involving dangerous substances

Not listed.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Always applicable.

Directive 94/33/EC on the protection of young people at work

Not listed.

Other regulations: The product is classified and labelled in accordance with EC directives or respective national laws.

This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

SARA 311/312 Hazards

Acute Health Hazard: Yes.

Chronic Health Hazard: No.

Fire Hazard: Yes.

Reactive Hazard: Yes.

Clean Water Act: CWA-Toxic Pollutants: Listed

Clean Air Act: Not applicable.

OSHA: Not applicable.

CERCLA: This material contains one or more substances regulated as a hazardous substance under the Comprehensive

Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Hazardous Substances RQs: 1000 lb

Massachusetts Right to Know Components: CAS No. 7440-66-6

Pennsylvania Right to Know Components: CAS No. 7440-66-6

New Jersey Right to Know Components: CAS No. 7440-66-6

California Prop. 65 Components: This product does not contain any chemicals known to the State of California to

cause cancer, birth defects, or any other reproductive harm.

U.S. Department of Transportation

Reportable Quantity (RQ): No.

DOT Marine Pollutant: No.

DOT Severe Marine Pollutant: No.

U.S. Department of Homeland Security: This product does not contain any DHS chemicals.

Other International Regulations

Canada: This product has been classified in accordance with hazard criteria of the Controlled Products Regulations (CPR).

WHMIS Hazard Class: B6 Reactive flammable material.

National regulations: Follow national regulation for work with chemical agents.

Chemical safety assessment: No Chemical Safety Assessment has been carried out.

SECTION 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.