

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 03.02.2015

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Zinc, Powdered

SECTION 1 : Identification of the substance/mixture and of the supplier

Product name : Zinc, Powdered

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number: S25637

Recommended uses of the product and uses restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific
9 Barnhart Drive, Hanover, PA 17331

Supplier Details:

Fisher Science Education
15 Jet View Drive, Rochester, NY 14624

Emergency telephone number:

Fisher Science Education Emergency Telephone No.: 800-535-5053

SECTION 2 : Hazards identification

Classification of the substance or mixture:



Corrosive

Serious eye damage, category 1



Irritant

Acute toxicity (oral, dermal, inhalation), category 4



Environmentally Damaging

Acute hazards to the aquatic environment, category 1
Chronic hazards to the aquatic environment, category 1

Eye Damage 1

Acute Toxicity 4 (oral)

Aquatic Acute Toxicity 1

Aquatic Chronic Toxicity 1

Hazards Not Otherwise Classified - Combustible Dust

Signal word :Danger

Hazard statements:

Causes serious eye damage

Harmful if swallowed

Very toxic to aquatic life

Very toxic to aquatic life with long lasting effects

Precautionary statements:

If medical advice is needed, have product container or label at hand

Keep out of reach of children

Read label before use

If medical advice is needed, have product container or label at hand

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Keep out of reach of children
Read label before use
Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection
Wash skin thoroughly after handling
Avoid release to the environment
Do not eat, drink or smoke when using this product
Rinse mouth
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
Dispose of contents and container as instructed in Section 13

Combustible Dust Hazard :

May form combustible dust concentrations in air (during processing).

Other Non-GHS Classification:

WHMIS



NFPA/HMIS



NFPA SCALE (0-4)

Health	3
Flammability	1
Physical Hazard	0
Personal Protection	X

HMIS RATINGS (0-4)

SECTION 3 : Composition/information on ingredients

Ingredients:

CAS 7446-20-0	Zinc sulfate heptahydrate	100 %
Percentages are by weight		

SECTION 4 : First aid measures

Description of first aid measures

After inhalation: Loosen clothing as necessary and position individual in a comfortable position. Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Get medical assistance if cough or other symptoms appear. Loosen clothing as necessary and position individual in a comfortable position. Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give

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oxygen. Get medical assistance if cough or other symptoms appear.

After skin contact: Rinse/flush exposed skin gently using soap and water for 15-20 minutes. Seek medical advice if discomfort or irritation persists. Rinse/flush exposed skin gently using soap and water for 15-20 minutes. Seek medical advice if discomfort or irritation persists.

After eye contact: Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned. Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

After swallowing: Rinse mouth thoroughly. Seek medical attention if irritation, discomfort or vomiting persists. Never give anything by mouth to an unconscious person. Do not induce vomiting. Seek medical attention if irritation, discomfort, or vomiting persists. Never give anything by mouth to an unconscious person. Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water.

Most important symptoms and effects, both acute and delayed:

Irritation- all routes of exposure. Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count. Irritation, Nausea, Headache, Shortness of breath. Headache. Nausea. Shortness of breath.; May cause bronchitis

Indication of any immediate medical attention and special treatment needed:

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically. If seeking medical attention, provide SDS document to physician. Physician should treat symptomatically.

SECTION 5 : Firefighting measures

Extinguishing media

Suitable extinguishing agents: Use agent most suitable for extinguishing surrounding fire. Use water spray to keep fire-exposed containers cool. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition. Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

For safety reasons unsuitable extinguishing agents: None identified.

Special hazards arising from the substance or mixture:

Thermal decomposition can lead to release of irritating gases and vapors. Containers may explode in the heat of a fire. Combustion products may include carbon oxides or other toxic vapors. Thermal decomposition can lead to release of irritating gases and vapors.

Advice for firefighters:

Protective equipment: Wear protective eyewear, gloves, and clothing. Refer to Section 8. Use NIOSH-approved respiratory protection/breathing apparatus. Use NIOSH-approved respiratory protection/breathing apparatus.

Additional information (precautions): Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing. Move product containers away from fire or keep cool with water spray as a protective measure, where feasible. Use spark-proof tools and explosion-proof equipment. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing.

SECTION 6 : Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Ensure that air-handling systems are operational. Ensure adequate ventilation. Ensure adequate ventilation. Ensure that air-handling systems are operational. Wear protective equipment. Use spark-proof tools and explosion-proof equipment.

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Environmental precautions:

Should not be released into environment. Prevent from reaching drains, sewer, or waterway. Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13. Should not be released into environment.

Methods and material for containment and cleaning up:

Wear protective eyewear, gloves, and clothing. Refer to Section 8. Always obey local regulations. Containerize for disposal. Refer to Section 13. Sweep up and containerize for disposal. Avoid generating dust. Keep in suitable closed containers for disposal. Wear protective eyewear, gloves, and clothing. Refer to Section 8. Always obey local regulations. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect solids in powder form using vacuum with (HEPA filter). Evacuate personnel to safe areas. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Keep in suitable closed containers for disposal.

Reference to other sections:

SECTION 7 : Handling and storage

Precautions for safe handling:

Avoid contact with skin, eyes, and clothing. Avoid contact with eyes, skin, and clothing. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Follow proper disposal methods. Refer to Section 13. Do not eat, drink, smoke, or use personal products when handling chemical substances. Minimize dust generation and accumulation. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Do not eat, drink, smoke, or use personal products when handling chemical substances.

Conditions for safe storage, including any incompatibilities:

Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Store away from incompatible materials. Protect from freezing and physical damage. Keep away from food and beverages. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store in cool, dry conditions in well sealed containers. Provide ventilation for containers. Store with like hazards. Keep container tightly sealed. Store away from incompatible materials.

SECTION 8 : Exposure controls/personal protection



Control Parameters:

7446-20-0, Zinc, ACGIH TLV: NA, OSHA PEL: NA
, , OSHA PEL TWA (Total Dust) 15 mg/m³ (50 mppcf*)
, , ACGIH TLV TWA (inhalable particles) 10 mg/m³

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Appropriate Engineering controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or dusts (total/respirable) below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use under a fume hood

Respiratory protection: Not required under normal conditions of use. 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. When necessary use NIOSH approved breathing equipment. Not required under normal conditions of use. 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. When necessary use NIOSH approved breathing equipment.

Protection of skin: Select glove material impermeable and resistant to the substance. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing. Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Eye protection: Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses or goggles are appropriate eye protection. Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses or goggles are appropriate eye protection.

General hygienic measures: Perform routine housekeeping. Perform routine housekeeping. Wash hands before breaks and at the end of work. Avoid contact with skin, eyes, and clothing. Before wearing wash contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with skin, eyes, and clothing. Before wearing wash contaminated clothing.

SECTION 9 : Physical and chemical properties

Appearance (physical state,color):		Explosion limit lower: Explosion limit upper:	
Odor:		Vapor pressure:	

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Odor threshold:		Vapor density:	
pH-value:		Relative density:	
Melting/Freezing point:		Solubilities:	Reacts with water
Boiling point/Boiling range:		Partition coefficient (n-octanol/water):	
Flash point (closed cup):		Auto/Self-ignition temperature:	
Evaporation rate:		Decomposition temperature:	
Flammability (solid,gaseous):		Viscosity:	a. Kinematic: b. Dynamic:
Density: Specific Gravity: :7.14			

SECTION 10 : Stability and reactivity

Reactivity: Nonreactive under normal conditions. Reacts with water. Nonreactive under normal conditions.

Chemical stability: Stable under normal conditions. Stable under normal conditions.

Possible hazardous reactions: None under normal processing. None under normal processing

Conditions to avoid: Incompatible materials. Excess heat. Incompatible Materials.

Incompatible materials: Oxidizing agents. Strong acids or bases. Strong acids. Strong bases. Oxidizing agents.

Hazardous decomposition products: Zinc oxides

SECTION 11 : Toxicological information

Acute Toxicity: No additional information.	
Chronic Toxicity: No additional information.	
Corrosion Irritation: No additional information.	
Sensitization:	No additional information.
Single Target Organ (STOT):	No additional information.
Numerical Measures:	No additional information.
Carcinogenicity:	EPA: IRIS Carcinogenicity Assessment- D (data are inadequate for an assessment of human carcinogenic potential; inadequate information to assess carcinogenic potential) Zinc
Mutagenicity:	No additional information.
Reproductive Toxicity:	Reproductive effects shown in laboratory animals

SECTION 12 : Ecological information

Ecotoxicity

Fish (acute 7440-66-6): : 96 Hr LC50 Pimephales promelas: 2.16 - 3.05 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: 0.211 - 0.269 mg/L [semi-static]; 96 Hr LC50 Pimephales promelas: 2.66 mg/L [static]; 96

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Hr LC50 Cyprinus carpio: 30 mg/L; 96 Hr LC50 Cyprinus carpio: 0.45 mg/L [semi-static]; 96 Hr LC50 Cyprinus carpio: 7.8 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 3.5 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 0.24 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 0.59 mg/L [semi-static]; 96 Hr LC50 Oncorhynchus mykiss: 0.41 mg/L [static]

Crustacea (acute 7440-66-6): : 48 Hr EC50 Daphnia magna: 0.139 - 0.908 mg/L [Static]

Algae (acute 7440-66-6): 96 Hr EC50 Pseudokirchneriella subcapitata: 0.11 - 0.271 mg/L [static]; 72 Hr EC50 Pseudokirchneriella subcapitata: 0.09 - 0.125 mg/L [static]

Persistence and degradability:

Bioaccumulative potential:

Mobility in soil:

Other adverse effects:

SECTION 13 : Disposal considerations

Waste disposal recommendations:

Contact a licensed professional waste disposal service to dispose of this material. Contact a licensed professional waste disposal service to dispose of this material. Dispose of empty containers as unused product. Product or containers must not be disposed with household garbage. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). 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. Ensure complete and accurate classification. Dispose of empty containers as unused product. Product or containers must not be disposed with household garbage. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). 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. Ensure complete and accurate classification.

SECTION 14 : Transport information

UN-Number

UN proper shipping name

Transport hazard class(es)

Packing group:

Environmental hazard:

Transport in bulk:

Special precautions for user:

SECTION 15 : Regulatory information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

None of the ingredients is listed

SARA Section 313 (Specific toxic chemical listings):

7440-66-6 Zinc Compounds (N982)

RCRA (hazardous waste code):

7440-66-6 Zinc [Phase 4 LDR Rule - Universal Treatment Standards 2.61 mg/L (wastewater); 4.3 mg/L TCLP (nonwastewater)]

TSCA (Toxic Substances Control Act):

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All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

7440-66-6 Zinc 1000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm)

Proposition 65 (California):

Chemicals known to cause cancer:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed

Chemicals known to cause developmental toxicity:

None of the ingredients is listed

Canada

Canadian Domestic Substances List (DSL):

All ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 0.1%):

None of the ingredients is listed

Canadian NPRI Ingredient Disclosure list (limit 1%):

None of the ingredients is listed

SECTION 16 : Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material. Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material. This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

GHS Full Text Phrases:

Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

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ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
DNEL: Derived No-Effect Level (REACH)
ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
CFR: Code of Federal Regulations (USA)
SARA: Superfund Amendments and Reauthorization Act (USA)
RCRA: Resource Conservation and Recovery Act (USA)
PNEC: Predicted No-Effect Concentration (REACH)
TSCA: Toxic Substances Control Act (USA)
NPRI: National Pollutant Release Inventory (Canada)
DOT: US Department of Transportation
CFR: Code of Federal Regulations (USA)
SARA: Superfund Amendments and Reauthorization Act (USA)
RCRA: Resource Conservation and Recovery Act (USA)
TSCA: Toxic Substances Control Act (USA)
NPRI: National Pollutant Release Inventory (Canada)
DOT: US Department of Transportation

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