

Safety Data Sheet

Material Name: Zinc Sulfate, Monohydrate

ID: C1-163

***** Section 1 - Chemical Product and Company Identification *****

Part Number: Technical Grade -- Granular, Prilled, and Powder Form, MAXIMO 360, 361, 362, 364

Chemical Name: Zinc Sulfate, Monohydrate

Product Use: For Commercial Use

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Supplier Information

Chem One Ltd.
14140 Westfair East Drive
Houston, Texas 77041-1104

Phone: (713) 896-9966

Fax: (713) 896-7540

Emergency # (800) 424-9300 or +1 (703) 527-3887

NOTE: Emergency telephone numbers are to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to customer service.

***** Section 2 - Composition / Information on Ingredients *****

GHS HAZARD

Hazard Classes

Skin irritation

Eye irritation

Specific target organ toxicity single exposure

Acute toxicity, oral

Acute aquatic toxicity

Chronic aquatic toxicity

Hazard Categories

Category 3

Category 1

Category 3

Category 4

Category 3

Category 3

Signal Word: **Danger**



Pictograms:

Hazard Statements

PHYSICAL HAZARDS:

None

HEALTH HAZARDS:

H301 Toxic if swallowed
H315 Causes mild skin irritation
H318 Causes serious eye damage
H335 May cause respiratory irritation

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ENVIRONMENTAL HAZARDS: 400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENTS: P102: Keep out of reach of children
P202: Do not handle until all safety precautions have been read and understood
P261: Avoid breathing dust
P264: Wash hands thoroughly after use
P280: Wear protective gloves, clothing and eye protection

RESPONSE STATEMENTS: P301 +310+ P331: IF SWALLOWED: USA Immediately call the National POISON CENTER at 800-222-1222. DO NOT induce vomiting
P303+P361+353: IF ON SKIN Take off immediately all contaminated clothing. Rinse skin with water
P304+340: IF INHALED, Remove to fresh air and keep comfortable for breathing
P305+P351: IF IN EYES rinse cautiously with water for at least 15 minutes
P306+P361: IF ON CLOTHING, Take off contaminated clothing
P330 Rinse mouth

STORAGE STATEMENTS: None

DISPOSAL STATEMENTS: P501: Dispose of content and/or container in accordance with local, regional, national or international regulations

***** Section 3 - Hazards Identification *****

CAS #	Component	Percent
7446-19-7	Zinc Sulfate Monohydrate	> 96

Synonyms: Sulfuric acid, zinc salt (1:1), monohydrate; Zinc mesosulfate (ZnH2SO5).

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Zinc sulfate (7733-02-0), Zinc compounds.

***** Section 4 - First Aid Measures *****

Emergency Overview

Zinc Sulfate Monohydrate is a white solid in granular or powder form. Harmful if swallowed. May cause irritation to the respiratory tract, eyes, and skin. Zinc Sulfate Monohydrate is not flammable. Use extinguishing media suitable for surrounding fire. When heated to decomposition this product emits toxic fumes of sulfur oxides and zinc oxides. Firefighters should wear full protective clothing including self contained breathing apparatus.

Hazard Statements

WARNING! HARMFUL IF SWALLOWED. MAY CAUSE IRRITATION TO THE RESPIRATORY TRACT, EYES, AND SKIN. INHALATION OF FUMES FROM THERMAL DECOMPOSITION MAY CAUSE METAL FUME FEVER. Do not breathe dusts. Do not allow product to contact eyes, skin, or clothing. Keep in tightly closed container. Use with adequate ventilation. Wash thoroughly after handling.

***** Section 4 - First Aid Measures (Continued) *****

Potential Health Effects: Eyes

Dust or fumes may cause moderate, temporary eye irritation. Symptoms may include redness, pain, tearing, and conjunctivitis.

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Potential Health Effects: Skin

Prolonged and/or repeated skin contact with this product may cause irritation/dermatitis. Symptoms may include redness, itching, swelling, and boils.

Potential Health Effects: Ingestion

Low doses of zinc salts are probably not toxic by ingestion. An excess of zinc salts can cause vomiting, burning sensation in the throat and stomach, followed by abdominal pain, bloody diarrhea, convulsions, changes in blood pressure and coma. Death may ensue after ingestion of a few grams, although the emetic effect of zinc sulfate (typically 0.6 to 2 g) makes severe poisoning unlikely. Human lethal doses of 180 mg/kg of ZnSO₄ (intermittently over 6 weeks) and 160 mg/kg have been reported.

Potential Health Effects: Inhalation

Inhalation of this product may cause respiratory tract irritation. Inhalation of fumes may cause metal fume fever, an illness which lasts less than 48 hours. Symptoms are similar to those of the flu and include fever, chills, sweats, dry mouth, headache, nausea, vomiting, cough, muscle aches and pains, weakness, and difficulty breathing. These symptoms may also result from breathing finely divided dusts. Reversible loss of the sense of smell may occur, based on data from animal tests.

First Aid: Skin

If irritation should occur, wash gently and thoroughly with water and non-abrasive soap. If irritation persists, seek medical attention.

First Aid: Ingestion

DO NOT INDUCE VOMITING, unless directed by medical personnel. Have victim rinse mouth thoroughly with water, if conscious. Never give anything by mouth to a victim who is unconscious or having convulsions. Contact a physician or poison control center immediately.

First Aid: Inhalation

Remove source of contamination or move victim to fresh air. Apply artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Get immediate medical attention.

First Aid: Notes to Physician

Provide general supportive measures.

***** Section 5 - Fire Fighting Measures *****

Hazardous Combustion Products

When heated to decomposition this product emits toxic fumes of sulfur oxides and zinc oxides.

Extinguishing Media

Use any method suitable for the surrounding fire and other materials involved in the fire.

Fire Fighting Equipment/Instructions

Firefighters should wear full protective clothing including self contained breathing apparatus.

NFPA Ratings: Health: 2 Fire: 0 Reactivity: 0 Other: Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Sever

***** Section 6 - Accidental Release Measures *****

Containment Procedures

Stop the flow of material, if this can be done without risk. Contain the discharged material. If sweeping of a contaminated area is necessary use a dust suppressant agent, which does not react with product (see Section 10 for incompatibility information).

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Clean-Up Procedures

Small releases can be cleaned-up wearing gloves, goggles and suitable body protection. In case of a large spill (in which excessive dusts can be generated), clear the affected area, protect people, and respond with trained personnel. Do not allow the spilled product to enter public drainage system or open water courses. Place all spill residues in an appropriate container and seal. Thoroughly wash the area after a spill or leak clean-up. Prevent spill rinsate from contamination of storm drains, sewers, soil or groundwater.

Evacuation Procedures

Evacuate the area promptly and keep upwind of the spilled material. Isolate the spill area to prevent people from entering. Keep materials that burn away from spilled material. In case of large spills, follow all facility emergency response procedures.

Special Procedures

Remove soiled clothing and launder before reuse. Avoid all skin contact with the spilled material. Have emergency equipment readily available.

* * * Section 7 - Handling and Storage * * *

Handling Procedures

All employees who handle this material should be trained to handle it safely. Do not breathe dust. Avoid all contact with skin and eyes. Use this product only with adequate ventilation. Wash thoroughly after handling.

Storage Procedures

Keep container tightly closed when not in use. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Material should be stored in secondary containers or in a diked area, as appropriate. Store containers away from incompatible chemicals (see Section 10, Stability and Reactivity). Storage areas should be made of fire-resistant materials. Post warning and "NO SMOKING" signs in storage and use areas, as appropriate. Use corrosion-resistant structural materials, lighting, and ventilation systems in the storage area. Floors should be sealed to prevent absorption of this material. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. Have appropriate extinguishing equipment in the storage area (i.e., sprinkler system, portable fire extinguishers).

Empty containers may contain residual particulates; therefore, empty containers should be handled with care. Do not cut, grind, weld, or drill near this container. Never store food, feed, or drinking water in containers that held this product. Keep this material away from food, drink and animal feed. Do not store this material in open or unlabeled containers. Limit quantity of material stored.

* * * Section 8 - Exposure Controls / Personal Protection * * *

Exposure Guidelines

A: General Product Information

No additional information.

B: Component Exposure Limits

ACGIH, OSHA, and NIOSH have not developed exposure limits for any of this product's components.

The exposure limits given are for Particulates Not Otherwise Classified.

OSHA: 15 mg/m³ TWA (Total dust)

5 mg/m³ TWA (Respirable fraction)

DFG MAKs 4 mg/m³ TWA (Inhalable fraction)

1.5 mg/m³ TWA (Respirable fraction)

Engineering Controls

Use mechanical ventilation such as dilution and local exhaust. Use a corrosion-resistant ventilation system and exhaust directly to the outside. Supply ample air replacement.

* * * Section 8 - Exposure Controls / Personal Protection * * *

PERSONAL PROTECTIVE EQUIPMENT

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132). Please reference applicable regulations and standards for relevant details.

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Personal Protective Equipment: Eyes/Face

Wear safety glasses (or goggles). . If necessary, refer to U.S. OSHA 29 CFR 1910.133.

Personal Protective Equipment: Skin

Wear impervious gloves, boots and coveralls to avoid skin contact. If necessary, refer to U.S. OSHA 29 CFR 1910.138.

Personal Protective Equipment: Respiratory

No specific guidelines are available. If airborne concentrations are above the applicable exposure limits, use NIOSH-approved respiratory protection. An approved dust and mist air-purifying respirator may be adequate. If respiratory protection is needed, use only protection authorized in the U.S. Federal OSHA Standard (29 CFR 1910.134), applicable U.S. State regulations. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134).

Personal Protective Equipment: General

Wash hands thoroughly after handling material. Do not eat, drink or smoke in work areas. Have a safety shower or eye-wash fountain available.

Personal Protective Equipment: General

Wash hands thoroughly after handling material. Do not eat, drink or smoke in work areas. Have a safety shower or eye-wash fountain available.

Protective Clothing Pictograms:



***** Section 9 - Physical & Chemical Properties *****

Physical Properties: Additional Information

The data provided in this section are to be used for product safety handling purposes. Please refer to Product Data Sheets, Certificates of Conformity or Certificates of Analysis for chemical and physical data for determinations of quality and for formulation purposes.

Appearance:	White	Odor:	Odorless
Physical State:	Solid	pH:	5.5 (saturated solution)
Vapor Pressure:	Practically zero	Vapor Density:	Not applicable
Boiling Point:	Not applicable	Freezing/Melting Point:	212 deg F (100 deg C)
Solubility (H2O):	Soluble	Specific Gravity:	13.35 g/cm3 at 20 deg C
Freezing Point:	Decomposes 34-60 deg C (91-140 deg F)	Particle Size:	Not determined
Softening Point:	Not available	Bulk Density:	60-65 lb/f3 (for powder form); 95-100 lb/f3 (for prilled form); 93-98 lb/f3 (for granular form)
Molecular Weight:	179.40	Chemical Formula:	ZnH2SO5
Flash Point:	Not flammable	Method Used:	Not applicable
Upper Flammable Limit (UEL):	Not applicable	Lower Flammable Limit (LEL):	Not applicable
Auto Ignition:	Not applicable	Flammability Classification	Not applicable

***** Section 10 - Chemical Stability & Reactivity Information *****

Chemical Stability

Stable.

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Chemical Stability: Conditions to Avoid

High temperatures, moisture, and incompatible materials.

Incompatibility

Incompatible with lead, calcium, and strontium salts, borax, alkali carbonates and hydroxides, and tannins.

Hazardous Decomposition

When heated to decomposition this product emits toxic fumes of sulfur oxides and zinc oxides (at temperatures greater than 500 deg C..

Hazardous Polymerization

Will not occur.

***** Section 11 - Toxicological Information *****

Acute and Chronic Toxicity

A: General Product Information

Dust or fumes may cause moderate, temporary eye irritation. Symptoms may include redness, pain, tearing, and conjunctivitis. Prolonged and/or repeated skin contact may cause irritation/dermatitis. Symptoms may include redness, itching, swelling, and boils. Ingestion may produce gastrointestinal symptoms of nausea, cramps, diarrhea, and vomiting. Ingestion of large amounts may cause anemia, acute pulmonary edema, gastric erosion, renal damage, decrease in blood pressure, increase in pulse rate, and possibly death. Since zinc sulfate is an emetic (can induce vomiting), severe poisoning is probably unlikely. Inhalation of this product may cause respiratory tract irritation. Inhalation of fumes may cause metal fume fever, an illness which lasts less than 48 hours. Symptoms are similar to those of the flu and include fever, chills, sweats, dry mouth, headache, nausea, vomiting, cough, muscle aches and pains, weakness, and difficulty breathing. These symptoms may also result from breathing finely divided dusts. Chronic exposure to large quantities of zinc sulfate, monohydrate dust or fumes may cause dermatitis, boils, conjunctivitis, and gastrointestinal disturbances.

B: Component Analysis - LD50/LC50

Zinc Sulfate Monohydrate (7446-19-7)

LD₅₀ (Oral-Rat) 574mg/kg, LD50 (Dermal Rat) > 2000mg/kg

B: Component Analysis - TDLo/LDLo

Zinc Sulfate Monohydrate (7446-19-7)

No data are currently available.

Carcinogenicity

A: General Product Information

No human data available. In rabbits, injections of the anhydrous form of zinc sulfate under the skin produced tumors. Zinc sulfate did not cause tumors in animals by oral, dermal, or inhalation routes. There is no evidence that zinc sulfate is a human carcinogen.

B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Epidemiology

No information available.

Neurotoxicity

No information available.

***** Section 11 - Toxicological Information Continued *****

Mutagenicity

No data available for zinc sulfate, monohydrate. However the anhydrous and heptahydrate forms tested positive in several in vivo and in vitro tests. In vitro assays of human lymphocytes indicate that zinc salts may cause chromosomal aberrations. Mice were fed a diet containing 0.5% zinc salts. Chromosomal aberrations were noted in the bone marrow cells of the 50% of mice which survived 30 days.

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Teratogenicity

No reproductive data for the monohydrate in humans or experimental animals. The anhydrous form caused developmental toxicity when administered orally to rats and when injected into hamsters. The heptahydrate affected male fertility when given in very high doses to rats and mice, and also affected the fallopian tubes in female mice. Zinc is required during pregnancy, but high doses of zinc salt have produced teratogenic effects. These doses may cause maternal death.

Other Toxicological Information

Repeated intratesticular injection of zinc salt has produced testicular tumors. Zinc sulfate causes relaxation of the blood vessels, in tests involving cats and dogs.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

A: General Product Information

Zinc products are harmful to aquatic life at low concentrations. Zinc poisoning causes inflamed gills in fish.

B: Aquatic Toxicity

No ecotoxicity data are available for Zinc Sulfate Monohydrate. The following data are available for the anhydrous form of Zinc Sulfate:

LC₅₀ (cichlid) 96 hours = 13 ppm; Lethal (stickleback) 120 hours = 0.3 mg/l as Zn; water type not specified; LC₅₀ (*Salmo gairdneri* rainbow trout) 48 hours = 4.76 mg/L, hard water (continuous flow conditions); LC₅₀ (*Salmo gairdneri* rainbow trout) 96 hours = 4.6 ppm; fresh water (conditions of bioassay not specified); TLm (*Anguilla japonica* Japanese eel) 24 hours = 29 mg/L (conditions of bioassay not specified); TLm (*Anguilla japonica* Japanese eel) 48 hours = 14 mg/L (conditions of bioassay not specified); TLm (*Anguilla japonica* Japanese eel) 96 hours = 11 mg/L (conditions of bioassay not specified); TLm (*Noemacheilus montanus*) 24 hours = 2.37 ppm (conditions of bioassay not specified); TLm (*Noemacheilus montanus*) 48 hours = 1.50 ppm (conditions of bioassay not specified); TLm (*Noemacheilus montanus*) 72 hours = 0.95 ppm (conditions of bioassay not specified); TLm (*Noemacheilus montanus*) 96 hours = 0.62 ppm (conditions of bioassay not specified); LC₅₀ (*Scylla serrata* on immature marine edible crab) 24 hours = 741.3 ppm (static bioassays).

Ecotoxicity (continued)

B: Aquatic Toxicity (continued)

LC₅₀ (*Scylla serrata* on immature marine edible crab) 48 hours = 645.7 ppm (static bioassays); LC₅₀ (*Scylla serrata* on immature marine edible crab) 72 hours = 489.8 ppm (static bioassays); LC₅₀ (*Scylla serrata* on immature marine edible crab) 96 hours = 398.1 ppm (static bioassays); LC₅₀ (*Lebistes reticulatus* male) 96 hours = 300 mg/L (Conditions of bioassay not specified); LC₅₀ (*Lebistes reticulatus* female) 96 hours = 278 mg/L (Conditions of bioassay not specified); LC₅₀ (*Labeo rohita* freshwater fish) 96 hours = 65 mg/L/96 hr (small fish); LC₅₀ (*Labeo rohita* freshwater fish) 96 hours = 77.5 mg/L (large fish) conducted in static renewal bioassays; A low but significant mortality has been found among rainbow trout exposed continuously for 4 months to constant concentrations of 0.3 of the 7-day LC₅₀; Laboratory studies of avoidance reactions have shown that Atlantic salmon and rainbow trout may avoid concentrations of zinc in soft water that are 0.14-0.01 of the; 7-day LC₅₀; Avoidance reactions have also been observed at 0.35-0.43 of the 7-day LC₅₀ by migrating Atlantic salmon in a river polluted with copper and zinc; Carp and goldfish show avoidance of 0.3-0.45 of lethal concentrations under laboratory conditions; Maximum allowable toxicant concentration (MATC) for fathead minnow 0.032-.18. Application factor for extrapolating 96-hour TL₅₀ data 0.03-0.02; Daphnids suffered decreased reproduction when exposed to 0.102 ppm Zn for 3 weeks as did fathead minnows exposed to 0.18 ppm for 10 months. Freshwater should not exceed 0.003 of the 96 hour LC₅₀ and marine waters 0.01 of the 96 hour LC₅₀

Environmental Fate

Zinc compounds are persistent in aquatic environments. Zinc compounds are accumulated by some organisms but are not considered to be bioconcentrative.

* * * Section 13 - Disposal Considerations * * *

US EPA Waste Number & Descriptions

A: General Product Information

Material, if discarded, is not expected to be a characteristic hazardous waste under RCRA.

B: Component Waste Numbers

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No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions

All wastes must be handled in accordance with local, state and federal regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

*** Section 14 – Transportation Information Ground ***

NOTE: The shipping classification information in this section (Section 14) is meant as a guide to the overall classification of the product. However, transportation classifications may be subject to change with changes in package size. Consult shipper requirements under 49 CFR, IATA and IMDG to assure regulatory compliance.



US DOT 49 CFR 100-185 Revised October 24, 2014 Information

UN/NA #: UN 3077

Shipping Name: Environmentally Hazardous Substance, solid, n.o.s. (Zinc sulfate monohydrate)

Hazard Class: 9

Packing Group: III

Required Label(s): Class 9

Special Provisions: 8,146, 335,B54, B120, IB8, IP3, T1, TP33

Packaging: Bulk 172.240

RQ Quantity: For a single package greater than the RQ of 1,000 lbs (454 kg), this product is regulated.

Marking: Marine Pollutant when shipping ground greater than 882 pounds single container or any quantity by water

*** Section 14 – Transportation Information Air ***

55th Edition International Air Transport Association (IATA):

For Shipments by Air transport: This information applies to air shipments both within the U.S. and for shipments originating in the U.S., but being shipped to a different country. NOTE: this product is not regulated by air in the US or Internationally. Max per single package on a passenger or cargo aircraft is 400 kg (880 lbs) Not a Dangerous Goods in a single package less than 454kg (1000 lbs)

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***** Section 14 – Transportation Information Vessel *****

Amendment 37-14 International Maritime Dangerous Goods (IMDG) Code

For shipments via marine vessel transport, the following classification information applies.



UN/NA #: UN 3077

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc sulfate monohydrate)

Hazard Class: Class 9 (Miscellaneous Dangerous Goods)

Packing Group: III

Special Provisions: 274, 335, 966, 967

IBC Instructions: IBC08

IBC Provisions: B2

EmS: F-A, S-F

Stowage and Segregation: Category A.

RQ Quantity: For a single package greater than the RQ of 1,000lb (4.54 kg).

Marking: Marine Pollutant

***** Section 15 - Regulatory Information *****

US Federal Regulations

A: General Product Information

No additional information.

B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4):

Zinc Sulfate Monohydrate (7446-19-7)

SARA 302 (EHS TPQ) There are no specific Threshold Planning Quantities for Zinc Sulfate Monohydrate. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lbs. (4,540 kg) therefore applies, per 40 CFR 370.20.

SARA 313: form R reporting required for 1.0% de minimus concentration (related to Zinc compounds)

CERCLA: final RQ = 1000 pounds (454 kg) (related to Zinc sulfate)

C: Sara 311/312 Tier II Hazard Ratings:

Component	CAS #	Fire Hazard	Reactivity Hazard	Pressure Hazard	Immediate Health Hazard	Chronic Health Hazard
Zinc Sulfate Monohydrate	7446-19-7	No	No	No	Yes	No

State Regulations

A: General Product Information

Other state regulations may apply.

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***** Section 15 - Regulatory Information Continued *****

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Zinc Sulfate Monohydrate (¹ related to Zinc sulfate)	7446-19-7	Yes¹	No	Yes¹	No	Yes¹	Yes¹

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):

This product contains trace amounts of lead, mercury and cadmium. **WARNING.** This product contains trace amounts of chemical compounds that are known to the State of California to cause cancer or reproductive harm.

Other Regulations

A: General Product Information

Zinc Sulfate Monohydrate is not on the non-confidential TSCA inventory; as a hydrate of a listed compound, it is exempt from listing.

B: Component Analysis - Inventory

Component	CAS #	TSCA	DSL	EINECS
Zinc Sulfate Monohydrate	7446-19-7	No	No	No

C: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Zinc Sulfate Monohydrate	7446-19-7	1% item 1726 (1534) (related to Zinc sulfate)

ANSI Labeling (Z129.1):

CAUTION! MAY CAUSE EYE IRRITATION. MAY CAUSE RESPIRATORY TRACT IRRITATION. PROLONGED OR REPEATED CONTACT MAY CAUSE SKIN IRRITATION. INHALATION OF FUMES, IF HEATED TO DECOMPOSITION, MAY CAUSE METAL FUME FEVER. Avoid breathing dusts and mists. Do not breathe fumes. Do not taste or swallow. Do not get on skin or in eyes. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Wear gloves, goggles, faceshields, suitable body protection, and NIOSH/MSHA-approved respiratory protection, as appropriate. **FIRST-AID:** In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If inhaled, remove to fresh air. If ingested, do not induce vomiting. Get medical attention. **IN CASE OF FIRE:** Use water fog, dry chemical, CO₂, or "alcohol" foam. **IN CASE OF SPILL:** Absorb spill with inert material. Place residue in suitable container. Consult Material Safety Data Sheet for additional information.

***** Section 16 - Other Information *****

Other Information

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***** Section 16 - Other Information Continued *****

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration

Contact: Sue Palmer-Koleman, PhD

Contact Phone: (713)-896-9966

Revision Log

08/18/00 10:50 AM SEP Changed company name, Sect 1 and 16, from Corporation to Ltd.
8/21/00 8:45 pm HDF Added CA Prop Statement regarding trace amounts of lead, cadmium and mercury, Sect 14.
06/02/01 9:31 AM HDF Checked exposure limits; made changes to Sect 9; overall review; add SARA 311/312 Haz Ratings.
08/20/01 6:12 PM CLJ Add Shipments by Air information to Section 14, Changed contact to Sue, non-800 Chemtrec Num.
09/30/03 10:15 PM HDF General review of entire MSDS. Up-graded Section 3 Health Hazard information, HMIS categories. Up-dated exposure limits to Section 8. Addition of current toxicity data to Section 11. Up-dated 14 Transportation Information.
06/22/05 4:42pm SEP Update IATA Section 14
09/05/06 4:52 PM SEP Updated DOT Bulk Bags, Section 14
10/23/07 2:51 pm SEP Updated IATA Section 14
10/15/08 10:56 AM DLY Changed Chem One Physical Address, Section 1
09/18/09 MMK Updated Section 14 limited and excepted quantities and exceptions
10/31/2014 GHS revision all sections
This is the end of MSDS # C1-163

Revised By:
SJC Compliance Education, Inc.
16516 El Camino Real Suite 417
Houston, TX 77062

Univar USA Inc Safety Data Sheet

For Additional Information contact SDS Coordinator during business hours, Pacific time: (425) 889-3400

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