

Material Safety Data Sheet

Zinc sulfate heptahydrate

ACC# 25580

Section 1 - Chemical Product and Company Identification

MSDS Name: Zinc sulfate heptahydrate**Catalog Numbers:** AC205980000, AC205980010, AC205982500, AC424600000, AC424600030, AC424605000, NC9460712, Z68-3, Z68-500, Z76-12, Z76-3, Z76-500, Z76SAM1, Z76SAM2, Z76SAM3**Synonyms:** White vitriol; zinc vitriol.**Company Identification:**Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410**For information, call:** 201-796-7100**Emergency Number:** 201-796-7100**For CHEMTREC assistance, call:** 800-424-9300**For International CHEMTREC assistance, call:** 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7446-20-0	Zinc sulfate, heptahydrate	99	unlisted

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white crystals.**Warning!** Causes severe eye irritation and possible eye injury. Causes skin and respiratory tract irritation. May be harmful if swallowed. Very toxic to aquatic organisms.**Target Organs:** Respiratory system, eyes, skin.

Potential Health Effects

Eye: Contact may cause severe eye irritation and possible eye damage.**Skin:** Causes skin irritation.**Ingestion:** May cause irritation of the digestive tract. May be harmful if swallowed.**Inhalation:** Dust is irritating to the respiratory tract. May be harmful if inhaled.**Chronic:** No information found.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.**Skin:** In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.**Ingestion:** If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult,

give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

Extinguishing Media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Provide ventilation. This material is a water pollutant and should not be emptied into drains.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid breathing dust.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Zinc sulfate, heptahydrate	none listed	none listed	none listed
Zinc sulfate anhydrous	none listed	none listed	none listed

OSHA Vacated PELs: Zinc sulfate, heptahydrate: No OSHA Vacated PELs are listed for this chemical. Zinc sulfate anhydrous: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: 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.

Section 9 - Physical and Chemical Properties

Physical State: Crystals

Appearance: white

Odor: odorless

pH: 4.4-6 (5% aq soln)

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: 100 deg C

Decomposition Temperature: > 500 deg C

Solubility: Soluble in water

Specific Gravity/Density: 3.54 g/cm³ @ 25°C

Molecular Formula: ZnSO₄·7H₂O

Molecular Weight: 287.55

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Efflorescent (tending to lose water molecules of hydration) in dry air.

Conditions to Avoid: Excess heat.

Incompatibilities with Other Materials: Strong bases.

Hazardous Decomposition Products: Oxides of sulfur, toxic fumes of zinc oxide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 7446-20-0: ZH5300000

CAS# 7733-02-0: ZH5260000

LD50/LC50:

CAS# 7446-20-0:

Oral, mouse: LD50 = 200 mg/kg;

Oral, rat: LD50 = 1260 mg/kg;

CAS# 7733-02-0:

Draize test, rabbit, eye: 420 ug Moderate;

Oral, mouse: LD50 = 245 mg/kg;

Oral, rabbit: LD50 = 2 gm/kg;

Carcinogenicity:

CAS# 7446-20-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 7733-02-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No data available.

Teratogenicity: No data available.

Reproductive Effects: No data available.

Mutagenicity: No data available.

Neurotoxicity: No data available.

Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.

Environmental: Very toxic to aquatic organisms.

Physical: No information available.

Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	NOT REGULATED FOR DOMESTIC TRANSPORT	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOL (Zinc sulfate)
Hazard Class:	XCP	9
UN Number:		UN3077
Packing Group:		III

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 7446-20-0 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

CAS# 7733-02-0 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

CAS# 7733-02-0: 1000 lb final RQ; 454 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 7446-20-0: immediate.

Section 313

This material contains Zinc sulfate, heptahydrate (listed as Zinc compounds), 99%, (CAS# 7446-20-0) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

This material contains Zinc sulfate anhydrous (listed as Zinc compounds), -, (CAS# 7733-02-0) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

CAS# 7733-02-0 is listed as a Hazardous Substance under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA. CAS# 7446-20-0 is listed as a Toxic Pollutant under the Clean Water Act. CAS# 7733-02-0 is listed as a Toxic Pollutant under the Clean Water Act.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 7446-20-0 can be found on the following state right to know lists: California, (listed as Zinc compounds), New Jersey, (listed as Zinc compounds), Pennsylvania, (listed as Zinc compounds).

CAS# 7733-02-0 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations**European Labeling in Accordance with EC Directives****Hazard Symbols:**

XN N

Risk Phrases:

R 22 Harmful if swallowed.

R 41 Risk of serious damage to eyes.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 22 Do not breathe dust.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 39 Wear eye/face protection.

S 46 If swallowed, seek medical advice immediately and show this container or label.

S 60 This material and its container must be disposed of as hazardous waste.

S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

WGK (Water Danger/Protection)

CAS# 7446-20-0: 1

CAS# 7733-02-0: 1

Canada - DSL/NDSL

CAS# 7446-20-0 is listed on Canada's DSL List.

CAS# 7733-02-0 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 7446-20-0 is not listed on the Canadian Ingredient Disclosure List.

CAS# 7733-02-0 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 12/12/1997**Revision #7 Date: 2/15/2008**

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.