

## SAFETY DATA SHEET

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifiers

Product name: Zinc sulfate heptahydrate  
CAS number: 7446-20-0  
Synonyms: Zinc vitriol; Salt of vitriol, White vitriol

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified Uses : Laboratory chemicals.

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

Company : Lab Alley, LLC  
22111 Highway 71 West, Suite 601  
Spicewood, Texas 78669  
U.S.A.

Telephone : 512-668-9918  
Fax : 512-886-4008

#### 1.4 Emergency telephone

Emergency Phone # : US & Canada: 1-800-535-5053 INFOTRAC  
International 1-352-323-3500 INFOTRAC

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute oral toxicity (Category 4)  
Serious eye damage/Eye irritation (Category 1)  
Specific target organ toxicity - repeated exposure (Category 2)  
Target organs - Heart, Blood.

## 2.2 GHS Label elements, including precautionary statements

Pictogram:



Signal Word:

**Danger**

Hazard statement(s):

Harmful if swallowed. Causes serious eye damage. May cause damage to organs through prolonged or repeated exposure.

Precautionary statement(s):

**Prevention** - Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. **Response** - Get medical attention/advice 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. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Dispose of contents/container to an approved waste disposal plant.

### Hazards not otherwise classified

Very toxic to aquatic life with long lasting effects.

## SECTION 3: Composition/information on ingredients

### 3.1 Components

Ingredient	CAS Number	Percent	Hazardous Chemical
Zinc sulfate heptahydrate	7446-20-0	100%	Yes
Zinc sulfate	7733-02-0	-	Yes

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

**General advice:**

Consult a physician. Show this safety data sheet to the doctor in attendance.

**If inhaled:**

Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.

**In case of eye contact:**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

**In case of skin contact:**

Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

**In case of ingestion:**

Do not induce vomiting. Call a physician or Poison Control Center immediately.

## 4.2 Most important symptoms and effects, both acute and delayed

Causes eye burns.

## 4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

# SECTION 5: Firefighting measures

## 5.1 Extinguishing media

### Suitable (and unsuitable) extinguishing media

Substance is nonflammable; use agent most appropriate to extinguish surrounding fire. No information available on unsuitable extinguishing media.

## 5.2 Specific hazards arising from the substance or mixture

Keep product and empty container away from heat and sources of ignition. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors. Do not allow run-off from fire fighting to enter drains or water courses.

## 5.3 Special 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.

## 5.4 Further information

**Hazardous Combustion Products:** Sulfur oxides

# SECTION 6: Accidental release measures

## 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation.

## 6.2 Environmental precautions

Do not flush into surface water or sanitary sewer system. 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.

## 6.3 Methods and materials for containment and cleaning up

Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal.

## 6.4 Reference to other sections

For disposal see Section 13. Refer to section 8 of SDS for personal protection details.

# SECTION 7: Handling and storage

## 7.1 Precautions for safe handling

Wear personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothing.

## Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

## 7.2 Conditions for safe storage, including any incompatibilities

### Storage conditions

Keep containers tightly closed in a dry, cool and well-ventilated place.

## SECTION 8. Exposure controls/personal protection

### 8.1 Occupational exposure limits

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

### 8.2 Exposure controls

#### Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. 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.

##### Control of environmental exposure

Do not flush into surface water or sanitary sewer system. 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.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical State	Solid.
Appearance	White.
Odor	Odorless.
Odor Thresh	Not available.
pH	4.4-6 5% aq. solution
Melting Point/Range	100 °C / 212 °F
Boiling Point/Range	Not available.
Flash Point	Not applicable.
Evaporation Rate	Not applicable.
Flammability (solid, gas)	Not available.
Flammability or explosive limit	

	<b>Upper</b> : NA
	<b>Lower</b> : NA
<b>Vapor Pressure</b>	Not available.
<b>Vapor Density</b>	Not applicable.
<b>Density</b>	3.54 @ 25°C
<b>Solubility</b>	Soluble in water.
<b>Partition coefficient; n-octanol/water</b>	Not available.
<b>Autoignition Temp</b>	Not applicable.
<b>Decomposition Temp</b>	500°C
<b>Viscosity</b>	Not applicable.
<b>Molecular Formula</b>	ZnSO4-7H2O
<b>Molecular Weight</b>	287.53
<b>VOC Content(%)</b>	Not available.
<b>Oxidizing properties</b>	None.

## 9.2 Other safety information

None.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

None known, based on information available.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid dust formation. Incompatible products. Excess heat.

### 10.5 Incompatible materials

Strong bases.

### 10.6 Hazardous decomposition products

Sulfur oxides.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

#### Product Information

#### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Zinc sulfate heptahydrate	1260 mg/kg ( Rat )	Not listed	Not listed
Zinc sulfate	500 mg/kg ( Rat )	Not listed	Not listed

**Skin corrosion/irritation**

No data available.

**Serious eye damage/eye irritation**

Severe eye irritant.

**Respiratory or skin sensitization**

No data available.

**Germ cell mutagenicity**

No data available.

**Carcinogenicity**

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

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Zinc sulfate heptahydrate	7446-20-0	Not listed	Not listed	Not listed	Not listed	Not listed
Zinc sulfate	7733-02-0	Not listed	Not listed	Not listed	Not listed	Not listed

**Reproductive toxicity**

Experiments have shown reproductive toxicity effects on laboratory animals.

**Specific target organ toxicity - single exposure**

No data available.

**Specific target organ toxicity - repeated exposure**

Heart, Blood.

**Aspiration hazard**

No data available.

**Chronic effects**

No data available.

**11.2 Additional information**

None.

**SECTION 12. Ecological information****12.1 Toxicity**

**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 sulfate heptahydrate	Not listed	1.9 mg/L LC50 96 h	Not listed	Not listed
Zinc sulfate	64.8 mg/L EC50 = 72 h 0.056 mg/L EC50 = 72 h 2.4 mg/L EC50 = 96 h	0.48 - 1.72 mg/L LC50 96 h 49.23 - 64.16 mg/L LC50 96 h 0.63 mg/L LC50 96 h 3.55 - 6.32 mg/L LC50 96 h 3 - 4.6 mg/L LC50 96 h 16.85 - 27.18 mg/L LC50 96 h 0.15 mg/L LC50 96 h 0.168 - 0.25 mg/L LC50 96 h 0.23 - 0.48 mg/L LC50 96 h 0.218 - 0.42 mg/L LC50 96 h 0.34 - 0.93 mg/L LC50 96 h 0.03 - 0.05 mg/L LC50 96 h 0.162 mg/L LC50 96 h 0.06 mg/L LC50 96 h	EC50 = 3.45 mg/L 15 min EC50 = 40.5 mg/L 30 min EC50 = 476 mg/L 5 min EC50 > 700 mg/L 16 h	0.538 - 0.908 mg/L EC50 48 h 0.75 mg/L EC50 = 48 h

## 12.2 Persistence and Degradability

Soluble in water. Persistence is unlikely based on information available.

## 12.3 Bioaccumulative Potential

No data available.

## 12.4 Mobility in Soil

Will likely be mobile in the environment due to its water solubility.

## 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

## 12.6 Endocrine disrupting properties

No data available.

## 12.7 Other adverse effects

Will likely be mobile in the environment due to its water solubility.

# SECTION 13. Disposal considerations

## 13.1 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.

# SECTION 14: Transport information

### DOT

UN-No	UN3077
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Hazard Class	3
Packing Group	III

### TDG

UN-No	UN3077
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Hazard Class	3
Packing Group	III

### IATA

UN-No	UN3077
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Hazard Class	3
Packing Group	III

### IMDG/IMO

UN-No	UN3077
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Hazard Class	3
Packing Group	III

## SECTION 15: Regulatory information

### International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Zinc sulfate heptahydrate	-	X	-	-	-		X	-	X	X	-
Zinc sulfate	X	X	-	231-793-3	-		X	X	X	X	X

#### Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

### U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313 Not applicable

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Zinc sulfate heptahydrate	7446-20-0	100	1.0
Zinc sulfate	7733-02-0	-	1.0

### SARA 311/312 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

### Clean Water Act

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Zinc sulfate heptahydrate	-	-	X	-
Zinc sulfate	X	1000 lb	X	-

Clean Air Act Not applicable

OSHA Occupational Safety and Health Administration

Not applicable

### CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
Zinc sulfate	1000 lb	-

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

### State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Zinc sulfate heptahydrate	-	X	X	-	-
Zinc sulfate	X	X	X	-	-

### U.S. Department of Transportation

Reportable Quantity (RQ):	N
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

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

**WHMIS Hazard Class**

D1B Toxic materials

E Corrosive material

**SECTION 16: Other information**

Issue Date 02/02/2010

Revision Date 09/07/2023

**Disclaimer:**

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.