

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
 12501 Pauls Valley Road
 Austin, Texas 78737
 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 statements

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

Precautionary statements

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.

Eyes

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.

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

Disposal

Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Very toxic to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Zinc sulfate heptahydrate	Zinc vitriol; salt of vitriol.	7446-20-0	100%
Zinc sulfate	-	7733-02-0	-

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled

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

In case of skin contact

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

If swallowed 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 extinguishing media Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.

Unsuitable extinguishing media No information available.

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. Hazardous combustion products: Sulfur oxides.

5.3 Special protective equipment and precautions for firefighters

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

5.4 Further information

Flash Point No data available

Autoignition Temperature No data available

Explosion limits

Upper No data available

Lower No data available

Sensitivity to Mechanical Impact No data available

Sensitivity to Static Discharge No data available

NFPA

Health	Flammability	Instability	Physical hazards
2	0	0	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. 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 and shovel into suitable containers for disposal.

6.4 Reference to other sections

See section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes or 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. Incompatible materials.

Incompatibilities

Strong bases.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

No information available.

Biological occupational exposure limits

No information available.

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 EN 166.

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

No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Solid
Appearance	White
Odor	Odorless
Odor Threshold	No information available
pH	4.4 - 6 5% aq.solution
Melting Point/Range	100 °C / 212 °F
Boiling Point/Range	No information available
Evaporation Rate	No information available
Flammability (solid)	No information available
Flammability or explosive limit	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	No information available
Density	3.54 @ 25 °C
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No information available
Autoignition Temp	No information available
Decomposition Temp	500 °C
Viscosity	No information available
Molecular Formula	O4SZn.7H2O
Molecular Weight	287.53

VOC Content(%)
Oxidizing properties

No information available
No information available

9.2 Other safety information

No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

No information available

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

None under normal processing.

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

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Zinc sulfate heptahydrate	1260 mg/kg (rat)	-	-
Zinc sulfate	1710 mg/kg (rat)	>2000 mg/kg (rat)	-

Skin corrosion/irritation

No information available

Serious eye damage/eye irritation

Severe eye irritant.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

Component	CAS	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

Specific target organ toxicity - single exposure

None known

Specific target organ toxicity - repeated exposure

Heart, Blood.

Reproductive toxicity

Experiments have shown reproductive toxicity effects on laboratory animals.

Chronic effects

No information available.

11.2 Additional Information

No information available.

SECTION 12: Ecological information

12.1 Toxicity

Product		Species	Test Results
Zinc sulfate heptahydrate	LC50	Freshwater Fish	1.9 mg/L 96 h
Zinc sulfate	EC50	Pseudokirchneriella subcapitata	0.056 mg/L 72 h
	LC50	Poecilis reticulata	0.48 - 1.72 mg/L 96 h
	LC50	Poecilis reticulata	49.23 - 64.16 mg/L 96 h
	LC50	Poecilis reticulata	0.63 mg/L 96 h
	LC50	Lepomic macrochirus	3.55 - 6.32 mg/L 96 h
	LC50	Lepomic macrochirus	3 - 4.6 mg/L 96 h
	LC50	Cyprinus carpio	16.85 - 27.18 mg/L
	LC50	Oncorhynchus mykiss	0.162 mg/L 96 h
	LC50	Pimephales promelas	0.168 - 0.25 mg/L
	LC50	Pimephales promelas	0.23 - 0.48 mg/L 96 h
	LC50	Pimephales promelas	0.06 mg/L 96 h
	LC50	Pimephales promelas	0.218 - 0.42 mg/L 96 h
	LC50	Oncorhynchus mykiss	0.34 - 0.93 mg/L 96 h
	LC50	Oncorhynchus mykiss	0.03 - 0.05 mg/L 96 h
	LC50	Cyprinus carpio	0.15 mg/L 96 h
	EC50	Microtox	3.45 mg/L 15 min
	EC50	Microtox	40.5 mg/L 30 min
	EC50	Microtox	476 mg/L 5 min
	EC50	Microtox	>700 mg/L 16 h
	EC50	Daphnia magna	0.538 - 0.908 mg/L 48 h
EC50	Daphnia magna	0.75 mg/L 48 h	

12.2 Persistence and degradability

Soluble in water, persistence is unlikely based on information available.

12.3 Bio accumulative potential

No information 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

No information available

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

Tumorigenic effects have been reported in experimental animals. See actual entry in RTECS for complete information.

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 (US)

UN-No	UN3077
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.
Hazard Class	9
Packing Group	III

IMDG

UN-No	UN3077
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.
Hazard Class	9
Packing Group	III

IATA

UN-No	UN3077
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.
Hazard Class	9
Packing Group	III

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Listed, Hazardous Substances RQs: 1000 lb

SARA 304 Emergency release notification

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

See section 2 for more information.

SARA 313 (TRI reporting)

Listed (ZINC SULFATE HEPTAHYDRATE) Weight: 100%. Threshold Values %: 1.0

Listed (ZINC SULFATE) Threshold Values %: 1.0

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not listed.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not listed.

Safe Drinking Water Act

Listed (ZINC SULFATE) Hazardous Substances. Reportable Quantities: 1000 lb.
Toxic Pollutants

Listed (ZINC SULFATE HEPTAHYDRATE) Toxic Pollutants.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not listed

US state regulations

US. Massachusetts RTK - Substance List

Listed (ZINC SULFATE)

US. New Jersey Worker and Community Right-to-Know Act

Listed (ZINC SULFATE HEPTAHYDRATE)

Listed (ZINC SULFATE)

US. Pennsylvania Worker and Community Right-to-Know Law

Listed (ZINC SULFATE)

California Proposition 65

Not listed

SECTION 16: Other information

Issue date: 08/12/2024

Revision: 0

SECTION 17: 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.