



Infosafe No™	1CH7K	Issue Date : October 2019	RE-ISSUED by CHEMSUPP
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Product Name : **ZINC SULFATE**

Classified as hazardous

1. Identification

GHS Product Identifier ZINC SULFATE

Company Name CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)

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SA 5013 Australia

Telephone/Fax Number Tel: (08) 8440-2000
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Recommended use of the chemical and restrictions on use Rayon manufacture, agriculture sprays, pharmaceutical industry (supplement for humans, animals and plants with zinc deficiency), galvanising, electroplating, in sewage against animal pathogenic bacteria, cosmetics, paper bleaching, fireproofing agent, animal feeds, synthesis of organic products, analytical and laboratory reagent.

Other Names	Name	Product Code
	ZINC SULFATE Heptahydrate AR	ZA012
	ZINC SULFATE Heptahydrate TG	ZT012
	ZINC SULFATE Heptahydrate USP	ZP012
	Zinc vitriol, White vitriol, White copperas, Zincate, Sulfuric acid zinc salt heptahydrate	

Other Information

Chem-Supply Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon Chem-Supply Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of Chem-Supply Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

2. Hazard Identification

GHS classification of the substance/mixture Eye Damage/Irritation: Category 1
Acute Toxicity - Oral: Category 4
Hazardous to the Aquatic Environment - Acute Hazard: Category 1
Hazardous to the Aquatic Environment - Long-Term Hazard: Category 1

Signal Word (s) DANGER

Hazard Statement (s) H302 Harmful if swallowed.
H318 Causes serious eye damage.
H410 Very toxic to aquatic life with long lasting effects.

Pictogram (s) Corrosion, Environment, Exclamation mark



Precautionary statement – Prevention P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.

Precautionary statement – Response P280 Wear eye protection/face protection.
P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330 Rinse mouth.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.

Precautionary statement – Disposal P501 Dispose of contents/container to an approved waste disposal plant.



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3. Composition/information on ingredients

Chemical Solid

Characterization**Ingredients**

<u>Name</u>	<u>CAS</u>	<u>Proportion</u>	<u>Hazard Symbol</u>	<u>Risk Phrase</u>
Zinc sulfate heptahydrate	7446-20-0	100 %		

4. First-aid measures

Inhalation If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Ingestion Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek medical advice if effects persist.

Skin Wash skin with water using soap if available. If persistent irritation occurs, obtain medical attention.

Eye contact Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Obtain medical attention immediately.

First Aid Facilities Maintain eyewash fountain and safety shower in work area.

Advice to Doctor Treat symptomatically based on judgement of doctor and individual reactions of the patient.

Other Information For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

5. Fire-fighting measures

Hazards from Combustion Products May liberate toxic fumes in fire (sulfur oxides).

Specific Methods Small fire: Use dry chemical, CO₂, water spray or foam.
Large fire: Use water spray, fog or foam.
If safe to do so, move undamaged containers from fire area. Cool containers with flooding quantities of water until well after the fire is out.

Specific hazards arising from the chemical Material may burn but not ignite readily. Fire or heat may produce irritating, poisonous and/or corrosive gases. Containers may explode when heated. Runoff may pollute waterways.

Hazchem Code 2Z

Precautions in connection with Fire Wear SCBA and structural firefighter's uniform.

6. Accidental release measures

Spills & Disposal Do NOT touch or walk through spilled material. Stop leak if safe to do so. Prevent entry into waterways, drains, confined areas. Prevent dust cloud. Water spray may be used to knock down or divert vapour clouds. Use clean non-sparking tools to collect material and place it into loosely-covered plastic containers for later disposal.

Personal Precautions Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms.

Personal Protection Wear protective clothing specified for normal operations (see Section 8)

Clean-up Methods - Small Spillages Sweep up (avoid generating dust) and remove to a suitable, clearly labelled container for disposal in accordance with local regulations.

Clean-up Methods - Large Spillages Seek expert advice on handling and disposal.

Environmental Precautions Prevent contamination of soil and water.

7. Handling and storage

Precautions for Safe Handling Avoid generation or accumulation of dusts. Avoid prolonged or repeated contact with skin and eyes. Wash hands and face thoroughly after working with material. Use with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Conditions for safe storage, including any incompatibilities Keep containers closed at all times. Store in a cool, dry place. Store in well ventilated area. Store away from heat. Keep dry - reacts with water; may lead to drum rupture.



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8. Exposure controls/personal protection

Other Exposure Information	No exposure standards have been established for this product by Safe Work Australia, however, the TWA exposure standard for dusts/mists not otherwise specified is 10 mg/m ³ . All atmospheric contamination should be kept to as low a level as is workable.
Appropriate engineering controls	In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. These methods should be used in preference to personal protective equipment.
Respiratory Protection	Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.
Eye Protection	The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.
Hand Protection	Wear gloves of impervious material conforming to AS/NZS 2161: Occupational protective gloves - Selection, use and maintenance. Final choice of appropriate glove type will vary according to individual circumstances. This can include methods of handling, and engineering controls as determined by appropriate risk assessments. Avoid skin contact when removing gloves from hands, do not touch the gloves outer surface. Dispose of gloves as hazardous waste.
Personal Protective Equipment	Personal protective equipment should not solely be relied upon to control risk and should only be used when all other reasonably practicable control measures do not eliminate or sufficiently minimise risk. Guidance in selecting personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.
Footwear	Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.
Body Protection	Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.
Hygiene Measures	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

9. Physical and chemical properties

Form	Solid
Appearance	Colourless to white crystals, small needles, or granular powder.
Odour	Odourless.
Melting Point	100 °C, loses water at 280 °C (heptahydrate)
Boiling Point	> 500 °C (heptahydrate)
Solubility in Water	Soluble.
Solubility in Organic Solvents	Soluble in glycerol. Insoluble in alcohol.
Specific Gravity	1.96 (heptahydrate); 3.2 (monohydrate)
pH	pH 4.0 - 6.0 (50 g/L, H ₂ O, 20 °C)
Flammability	Non combustible material.
Molecular Weight	287.54 (heptahydrate)
Other Information	Astringent, metallic taste.

10. Stability and reactivity

Chemical Stability	Stable under normal use conditions.
Conditions to Avoid	Exposure to moisture. Strong heating. Incompatibles.
Incompatible Materials	Water, lead, calcium, strontium salts, borax, alkali carbonates and hydroxides, silver proteins, strong oxidizing agents and tannins.
Hazardous Decomposition Products	Oxides of sulfur and zinc.



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Possibility of hazardous reactions	Reacts with water to form sulfuric acid.
Hazardous Polymerization	Will not occur.

11. Toxicological Information

Acute Toxicity - Oral	In a study carried out using OECD Test Guideline (TG) 423, zinc sulfate heptahydrate had an LD50 between 1000 to 2000 mg/kg bw in rats of both sexes. Reported signs of toxicity include hunched posture, lethargy, ataxia, piloerection, splayed gait, laboured respiration, emaciation, red-brown staining around the eyes and diarrhoea (EU RAR, 2004; REACH).
Ingestion	Harmful if swallowed. May hydrolyze to acid if swallowed. May cause severe irritation and burns of the mouth, throat and digestive system. Symptoms may include vomiting, diarrhea, burning sensation, coughing, wheezing, shortness of breath, headaches, nausea, inflammation of mucous membranes, stomach pain, cold sweats, leg cramps. Ingestion of material in large doses may cause metallic fume fever.
Inhalation	Inhalation of dust may cause irritation to the mucous membranes of the respiratory tract. Symptoms may cause coughing, shortness of breath, chills, nausea, fever and tightness of the chest. Inhalation may lead to the formation of respiratory odemas.
Skin	May cause irritation, redness, itching and pain. Over exposure may cause dermantitis.
Eye	Eye contact with material may cause redness, pain, severe irritation and possible mechanical harm. Risk of serious damage to eyes.
Carcinogenicity	No evidence of carcinogenic properties.
Chronic Effects	May cause minor, reversible health effects on the lungs. Prolonged or repeated exposure of dust via inhalation or ingestion may lead to an increased pulse rate without blood pressure decrease, blood pressure decrease, acute pulmonary edema/bronchitis/pneumonia with bluish skin, metal fume fever with symptoms including metallic taste, marked thirst, coughing, weakness, muscular pain and nausea followed by fever and chills. Further damage may be caused to cardiovascular system, kidneys, and pancreas. These conditions typically disappears after exposure to material ceases. Prolonged or repeated skin contact can cause severe dermantitis (oxide pox). Repeated eye contact can cause eye effects.
Mutagenicity	No evidence of mutagenic properties.

12. Ecological information

Environmental Protection	Do not allow product to enter drains, waterways or sewers. Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic organisms.
Acute Toxicity - Fish	LC50 (Onchorhynchus mykiss): 0.43 mg/l/96 h (anhydrous substance) Toxic to aquatic life. 96-hour LC50 (fish): 1 - 10 mg/L.
Acute Toxicity - Daphnia	EC50 (Daphnia magna): 0.15 mg/l/48 h
Acute Toxicity - Algae	Bactericidal effect. Hazard for drinking water supplies. IC50 (Sc. quadricauda): 0.52 mg/l/5 d.

13. Disposal considerations

Disposal Considerations	Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.
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14. Transport information

Transport Information	Dangerous Goods of Class 9 Miscellaneous Dangerous Goods are incompatible in a placard load with dangerous goods of Class 1. Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to this Code when transported by road or rail in; (a) packagings that do not incorporate a receptacle exceeding 500 kg(L); or (b) IBCs.
U.N. Number	3077
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Transport hazard class(es)	9
Hazchem Code	ZZ
Packing Group	III



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EPG Number 9C1

IERG Number 47

15. Regulatory information

Regulatory Information Listed in the Australian Inventory of Chemical Substances (AICS).

Poisons Schedule S6

16. Other Information

Literature References

'Standard for the Uniform Scheduling of Medicines and Poisons .', Commonwealth of Australia.
 Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997.
 National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007.
 Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011.
 Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010.
 Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
 Safe Work Australia, 'Hazardous Chemical Information System, 2005'.
 Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
 Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995) 3rd Edition]'.

Contact Person/Point

Paul McCarthy Ph. (08) 8440 2000 **DISCLAIMER STATEMENT:**
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Empirical Formula & Structural Formula ZnSO₄.7H₂O - zinc sulfate heptahydrate

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