Zinc Sulphate

1. Identification of the substance/mixture and supplier

Product Name:	**Zinc Sulphate**
Other names	Sulfuric Acid, Zinc Salt (1:1), Monohydrate
Recommended Uses	Laboratory chemicals, Manufacture of substances
Supplier **Street address**	**Dickie Direct Ltd** **25 Railway Road, Whakatu** **Hastings 4172**
Telephone Number **Website** **Emergency Telephone**	0800 4 DICKIE (4 34254) www.dickiedirect.co.nz 0800 CHEMCALL (24 hours) 0800 243 622

2. Hazards Identification

Poison Schedule (Aust) 6

Globally Harmonised System

GHS Classifications

Acute oral toxicity Category 4
Specific target organ toxicity – single/exposure Category 2
Serious Eye damage Category 1
Hazardous to the Aquatic environment acute/chronic Category 1
Hazardous to Terrestrial Vertebrates

HSNO classifications **6.1D (All), 6.1D (O), 6.9B (All), 6.9B (O), 8.3A, 9.1A (All), 9.1A (F), 9.1A (C), 9.1A (A), 9.2C, 9.3C**

Pictograms

Signal Word Danger

Hazard Statements H302 Harmful if swallowed.
H318 Causes serious eye damage.
H400 Very toxic to aquatic life.
Precautionary Statements Prevention P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
Response P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
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.
P330 Rinse mouth.
P391 Collect spillage.
Disposal P501 Dispose of contents/container in accordance with local / regional / national / international regulations.
National Transport Commission (Australia)
Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
Dangerous Goods Classification NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous
Goods by Road & Rail (ADG Code)
Environmental Protection Authority (New Zealand)
Hazardous Substances and New Organisms Act 1996

3. Composition/Information on Ingredients

Contents	CAS Number	Proportion
Zinc Sulphate Monohydrate	**7446-19-7**	**100%**

4. First Aid Measures

Description of necessary measures according to routes of exposure

Swallowed: Rinse mouth with water. Give plenty of water to drink provided victim is conscious. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Seek medical attention.

Eye: Immediately flush eyes with plenty of water for 15 minutes, holding eyelids open. In all cases of eye contamination, it is a sensible precaution to seek medical advice.

Skin: If skin contact occurs, remove any contaminated clothing and shoes and wash skin with plenty of soap and water.
Seek medical attention. Wash clothing before reuse.

Inhaled: Remove victim from exposure to fresh air. If not breathing, apply artificial respiration. If breathing is difficult, give oxygen. Keep person warm and calm. Seek medical attention.

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

Medical Conditions Aggravated by Exposure: No information available on medical conditions which are aggravated from exposure to this product.

5. Fire-fighting Measures

General Measures: Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk.

Flammability Conditions: No Data Available

Extinguishing Media: In case of fire, use appropriate extinguishing media most suitable for surrounding fire conditions. Suitable media may include water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Fire and Explosion Hazard: Non-combustible Solid.

Hazardous Products of Combustion: May release toxic and hazardous oxides of zinc and sulphur when involved in a fire.

Special Fire Fighting Instructions: Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.

Personal Protective Equipment: Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves).

Flash Point: No Data Available
Lower Explosion Limit: No Data Available
Upper Explosion Limit: No Data Available
Auto Ignition Temperature No Data Available

Hazchem Code: No Data Available

6. Accidental Release Measures

General Response Procedure: Avoid accidents, clean up immediately. Eliminate all sources of ignition. Increase ventilation. Avoid generating dust. Stop leak if safe to do so. Isolate the danger area. Use clean, non-sparking tools and equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Clean Up Procedures: Contain and sweep/shovel up spills with dust binding material or use an industrial vacuum cleaner. Transfer to a suitable, labelled container and dispose of promptly as hazardous waste.

Containment: Stop leak if safe to do so. Isolate the danger area.

Environmental Precautionary Measures: Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management.

Evacuation Criteria: Evacuate all unnecessary personnel.

Personal Precautionary Measures: Personnel involved in the clean up should wear full protective clothing as listed in section 8.

7. Handling and Storage

Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Avoid handling which leads to dust formation. In common with many organic chemicals, may form flammable dust clouds in air. Do not inhale product dust/fumes. Use only in a chemical fume hood.

Storage: Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials as listed in section 10. Hygroscopic. Keep container tightly closed in a dry and well-ventilated place. This product has a UN classification of 3082 and a Dangerous Goods Class 9 (Miscellaneous) according to The Australian Code for the Transport of Dangerous Goods By Road and Rail. NOTE: This product is subject to special provision AU01 according to The ADG7. SP No. AU01 Environmentally Hazardous Substances meeting the descriptions of UN 3077 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.

Container: Store in original packaging as approved by manufacturer.

8. Exposure Controls/Personal Protection

General: No exposure standard has been established for this product by the Australian Safety and Compensation Council (ASCC). However, the exposure standard for dust not otherwise specified is 10mg/m3 (for inspirable dust) and 3mg/m3 (for respirable dust).
NOTE: The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.
These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Exposure Limits: No Data Available

Biological Limits: No information available on biological limits for this product.

Engineering Measures: A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Adequate ventilation should be provided so that exposure limits are not exceeded.

Personal Protection Equipment:

RESPIRATOR: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards (AS1715/1716).

EYES: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards (AS1336/1337).

HANDS: Handle with gloves. Gloves must be inspected prior to use (AS2161).

CLOTHING: Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace (AS3765/2210). Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product.
Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Splash contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374. If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Work Hygienic Practices: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. Physical and Chemical properties

Physical State	**Solide**
Appearance	**White Powder or Granules**
Odour	**No data available**
Relative Vapour Pressure	**0**
Solubility	**30% (21.1,C) 25°C**
Specific Gravity	**3.28**
Additional Characteristics	**Hygroscopic**

10. Stability and Reactivity

Stability Product is stable under normal conditions of use, storage and temperature.

Conditions to Avoid: Moisture

Materials to Avoid: Strong oxidising agents.

Hazardous Decompostion Products: May release toxic and hazardous oxides of zinc and sulphur when involved in a fire.

11. Toxicological information

General Information: No Data Available

Eye Irritant: Risk of serious eye damage.

Ingestion: Harmful if swallowed.

Inhalation: Zinc oxide dust or fume can irritate the respiratory tract. Exposure to high levels of dust or fume can cause metallic taste, marked thirst, coughing, fatigue, weakness, muscular pain, and nausea followed by fever and chills. Severe overexposure may result in bronchitis or pneumonia with a bluish tint to the skin.

Skin Irritant: May cause skin irritation. Prolonged skin contact can produce a severe dermatitis called oxide pox.

Carcinogen Category: No Data Available

12. Ecotoxicological information

Ecotoxicity: Very toxic to aquatic organisms; may cause long term adverse effects in the aquatic environment.

Persistence/Degradability: No information available on persistence/degradability for this product.

Mobility: No information available on mobility for this product.

Environmental Fate: Do NOT let product reach waterways, drains and sewers.

Bioaccumulation Potential: No information available on bioaccumulation for this product.

Environmental Impact: No Data Available

13. Disposal

General Information: Dispose of in accordance with all local, state and federal regulations. All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility. Dispose of as unused product.

Special Precautions for Land Fill: Contact a specialist disposal company or the local waste regulator for advice. Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

14. Transport information

Road and Rail Transport
Classified as a Dangerous Good according to NZS 5433:1999 Transport of Dangerous Goods on Land.

UN No	3077
Class-primary	9
Packing Group	III
Proper Shipping Name	Environmentally hazardous substance, solid, N.O.S (Zinc Sulphate Monohydrate.
Hazchem Code	2Z

Marine Transport
Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

UN No	3077
Class-primary	9
Packing Group	III
Proper Shipping Name	Environmentally hazardous substance, solid, N.O.S (Zinc Sulphate Monohydrate)
Hazchem Code	2Z
Marine Pollutant:	YES

Air Transport

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

UN No	3077
Class-primary	9
Packing Group	III
Proper Shipping Name	Environmentally hazardous substance, solid, N.O.S (Zinc Sulphate Monohydrate)
Hazchem Code	2Z

15. Regulatory Information

ERMA (NZ) Approval Code:	HSR003733
GHS Classifications	Acute oral toxicity Category 4 Specific target organ toxicity – single/exposure Category 2 Serious Eye damage Category 1 Hazardous to the Aquatic environment acute/chronic Category 1 Hazardous to Terrestrial Vertebrates
HSNO classifications	6.1D (All), 6.1D (O), 6.9B (All), 6.9B (O), 8.3A, 9.1A (All), 9.1A (F), 9.1A (C), 9.1A (A), 9.2C, 9.3C

16. Other Information

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES.

The information in this document is believed to be correct as of the date issued. However, no warranty of merchantability, fitness for any particular purpose, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from the use of this information or the product, the safety of this product, or the hazards related to its use. This information and product are furnished on the condition that the person receiving them shall make his own determination as to the suitability of the product for his particular purpose and on the condition that he assume the risk of his use thereof.