


## Zinc Sulphate Monohydrate

### Section 1: SUBSTANCE IDENTIFICATION AND SUPPLIER

<b>Product Name:</b>	Zinc Sulphate Monohydrate
<b>Other Names:</b>	Dried zinc sulphate, Sulphuric acid zinc salt monohydrate.
<b>Product Code:</b>	N/A
<b>Recommended Use:</b>	As a fertiliser ingredient.
<b>Restrictions of Use:</b>	Refer to Section 15
<b>Company Identification:</b>	Ravensdown Limited
<b>Address:</b>	292 Main South Road, Hornby, Christchurch, 8042 PO Box 1049, Christchurch 8011
<b>Customer Centre:</b>	0800 100 123
<b>National Poisons Information Centre:</b>	0800 POISON (0800 764 766)
<b>Emergency Phone Number:</b>	0800 CHEMCALL (0800 243 622) (24hr) (Emergencies Only)
<b>Transport Emergency Phone Number:</b>	111 - tell operator what service is needed: Fire, Ambulance or Police
<b>Date of SDS Preparation</b>	15 June 2021

### Section 2: HAZARD IDENTIFICATION

This substance is hazardous according to the EPA Hazardous Substances (Classification) Notice 2020

<b>EPA Approval No:</b>	Additives, Process Chemicals and Raw Materials (subsidiary) - HSR002503
<b>Pictograms:</b>	
<b>Signal Word:</b>	<b>Danger</b>

HSNO Classification	Hazard Code	Hazard Statement
Acute oral toxicity Cat. 4	H302	Harmful if swallowed.
Serious eye damage Cat. 1	H318	Causes serious eye damage.
Specific target organ toxicity – repeated exposure Cat. 2	H373	May cause damage to organs through prolonged or repeated exposure.
Hazardous to the aquatic environment Acute/chronic Cat. 1	H400/H410	Very toxic to aquatic life with long lasting effects.

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read label before use.
P260	Do not breathe dust.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.

P273	Avoid release to the environment.
P280	Wear protective clothing as detailed in Section 8.

Response Code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P310	Immediately call a POISON CENTER or doctor/physician.
P314	Get medical advice/attention if you feel unwell.
P330	Rinse mouth.
P391	Collect spillage.
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.

Storage Code	Storage Statement
None allocated	

Disposal Code	Disposal Statement
P501	Dispose of according to Local Regulations or Authorities

### Section 3: COMPOSITION INFORMATION

INGREDIENT	CAS No.	CONTENT
Zinc sulphate monohydrate	7446-19-7	99%

### Section 4: FIRST AID MEASURES

Routes of Exposure:	
<b>If in eyes:</b>	Flush with plenty of water for several minutes, holding eyelids open if necessary. Remove contact lenses if present and easy to do. Immediately call a POISON CENTER or doctor/physician.
<b>If on skin:</b>	Wash affected area thoroughly with soap and water. If skin irritation occurs: Get medical advice/attention.
<b>If ingested:</b>	Rinse mouth. Never give anything by mouth to an unconscious person. If swallowed DO NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>If inhaled:</b>	Remove patient to fresh air. Lay down and keep warm and rested. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. Seek medical assistance if needed.
Most important symptoms and effects, both acute and delayed	
<b>Symptoms:</b>	
<b>Eyes:</b>	Causes severe eye damage.
<b>Skin:</b>	Not applicable.
<b>Ingested:</b>	Harmful if swallowed. Ingestion of large quantities may lead to nausea, vomiting, inflammation of mucous membranes, stomach ulceration, cold sweats, pulse depression and leg cramps.
<b>Inhaled:</b>	May lead to nausea, vomiting, inflammation of mucous membranes.
<b>Chronic:</b>	May cause damage to organs through prolonged or repeated exposure. .

### Section 5: FIRE FIGHTING MEASURES

<b>Hazard Type</b>	Non Flammable
<b>Hazards from combustion products</b>	Sulphur oxides, zinc oxide.
<b>Suitable Extinguishing media</b>	Use extinguishing media suitable for surrounding area.
<b>Precautions for firefighters and special protective clothing</b>	Breathing apparatus and protective gloves. Use water spray to cool intact containers.
<b>HAZCHEM CODE</b>	<b>2Z</b>

## Section 6: ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures:

Wear appropriate protective clothing as detailed in Section 8. Exclude non-essential people from the area.

### Environmental precautions:

Avoid from entering drains, waterways or sewers.

### Methods and material for containment and cleaning up:

Contain spill and sweep up. Collect and place in sealable containers. Avoid generating dust. Dispose of according to Section 13.

## Section 7: HANDLING AND STORAGE

<b>Handling:</b>	Read label before use. Do not breathe dust. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective clothing as detailed in Section 8.
<b>Storage:</b>	Store away from incompatible materials listed in Section 10. Keep out of the reach of children. Keep container tightly closed. Store in sealed packaging in cool, dry, well ventilated area.

## Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION

### WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA ppm mg/m <sup>3</sup>	STEL ppm mg/m <sup>3</sup>
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No exposure limits have been assigned for this product.

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices NOV 2019 11<sup>TH</sup> EDITION.

<b>Engineering Controls:</b>	If dusts are generated use local extraction to control.
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### Personal Protection Equipment:



<b>Eyes:</b>	Safety glasses. If dusts present wear goggles. Ensure eye wash facilities should be available.
<b>Skin/Hands:</b>	When contact with product is likely, wear protective gloves and overalls
<b>Respiratory:</b>	If dusts present wear dust mask.
<b>General:</b>	Do not eat, drink or smoke while using this product. Remove protective clothing and wash daily after work. Contaminated clothing should not be allowed out of the workplace.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Powder or granules
<b>Colour</b>	White
<b>Odour</b>	Odourless
<b>Odour Threshold</b>	Not available

<b>pH</b>	(50g.L <sup>-1</sup> in water, 20°C) 4-5.2
<b>Boiling Point</b>	Not available
<b>Melting Point</b>	240°C (loses crystalline water).
<b>Freezing Point</b>	Not available
<b>Flash Point</b>	Not available
<b>Flammability</b>	Not available
<b>Upper and Lower Explosive Limits</b>	Not available
<b>Vapour Pressure</b>	Not available
<b>Vapour Density</b>	Not available
<b>Specific Gravity</b>	3.35 g/cm <sup>3</sup>
<b>Bulk Density</b>	1260 g.cm-3
<b>Water Solubility</b>	350g/L (at 20°C).
<b>Partition Coefficient:</b>	Not available
<b>Auto-ignition Temperature</b>	Not available
<b>Decomposition Temperature</b>	>600°C
<b>Kinematic Viscosity</b>	Not available
<b>Particle Characteristics</b>	Not available

### Section 10: STABILITY AND REACTIVITY

<b>Stability of Substance</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Not available
<b>Conditions to Avoid</b>	Strong heat, moisture.
<b>Incompatible Materials</b>	Strong oxidizing agents, water, lead, calcium, strontium salts, borax, alkali carbonates and hydroxides, silver proteins and tannins.
<b>Hazardous Decomposition Products</b>	Sulphur oxides, zinc oxide.
<b>Hygroscopic</b>	Yes

### Section 11: TOXICOLOGICAL INFORMATION

#### Acute Effects:

<b>Swallowed</b>	Harmful if swallowed. Ingestion of large quantities may lead to nausea, vomiting, inflammation of mucous membranes, stomach ulceration, cold sweats, pulse depression and leg cramps.LD50 (oral, rat)2949 mg.kg <sup>-1</sup>
<b>Dermal</b>	Not applicable.
<b>Inhalation</b>	Not triggered however if inhaledmay lead to nausea, vomiting, inflammation of mucous membranes.
<b>Eye</b>	Causes severe eye damage.
<b>Skin</b>	Not applicable.

#### Chronic Effects:

<b>Carcinogenicity</b>	Not applicable.
<b>Reproductive Toxicity</b>	Not applicable.
<b>Germ Cell Mutagenicity</b>	Not applicable.
<b>Aspiration</b>	Not applicable.
<b>STOT/SE</b>	Not applicable.
<b>STOT/RE</b>	May cause damage to organs through prolonged or repeated exposure.

### Section 12: ECOLOGICAL INFORMATION

Very toxic to aquatic life with long lasting effects.

<b>Persistence and degradability</b>	No data available.
<b>Bioaccumulation</b>	No data available.
<b>Mobility in Soil</b>	No data available.

<b>Other adverse effects</b>	No data available.
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Do not allow to enter waterways.

### Section 13: DISPOSAL INFORMATION

Disposal Method:	Dispose of product only by using according to label or at an approved landfill. Recycle where possible. Do not contaminate bodies of water with chemical or empty container. Refer to the Local council bylaws and Land Waste Management Authority.
Container Disposal:	Rinse containers thoroughly prior to re-use. Otherwise render unusable, and dispose of as hazardous waste.
Precautions or methods to avoid:	Do not allow to enter waterways.

### Section 14: TRANSPORT INFORMATION

This product is classified as a Dangerous Good for transport in NZ ; NZS 5433:2012



#### Road, Rail, Sea and Air Transport

UN No	3077
Class - Primary	9
Packing Group	III
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID N.O.S
Marine Pollutant	Yes
Special Provisions	If the product's individual container is below 5kg, it can be transported as a non-DG as long as the product packaging is still labelled as per DG requirements and the driver is given safety information in accordance with Chapter 3.4 of the UNRTDG.

### Section 15: REGULATORY INFORMATION

<b>This substance is classified hazardous according to the EPA Hazardous Substances (Classification) Notice 2020</b>	
EPA Approval Code:	Additives, Process Chemicals and Raw Materials (subsidiary) - HSR002503
GHS Classification:	Acute oral toxicity Cat. 4 Serious eye damage Cat. 1 Specific target organ toxicity – repeated exposure Cat. 2 Hazardous to the aquatic environment Acute/chronic Cat. 1

HSW (HS) Regulations 2017	Trigger Quantity
Signage Trigger Quantities (Schedule 3)	100kg
Emergency Response Plan (Schedule 5)	100kg
Secondary Containment (Schedule 5)	100kg
Tracking (Schedule 26)	Not required
Certified Handlers	Not required
Restrictions of use	None known.

### Section 16: OTHER INFORMATION

#### Glossary

Cat	Category
EC <sub>50</sub>	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
HSW	Health and Safety at Work.

LC <sub>50</sub>	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD <sub>50</sub>	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
OSHA	American Occupational Safety and Health Administration.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level
WES	Workplace Exposure Limit

References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2012
5. HSW (Hazardous Substances) Regulations 2017

**Disclaimer**

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Please contact Ravensdown, if further information is required.

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