



# Zinc Sulphate monohydrate

## Safety Data Sheet

### 1. Identification of Substance & Company

<b>Product</b>	
<b>Product name</b>	Zinc Sulphate monohydrate
<b>Other names</b>	NA
<b>Product codes</b>	not assigned
<b>HSNO approval</b>	HSR002503
<b>Approval description</b>	Additives, Process Chemicals and Raw Materials (Subsidiary Hazard) Group Standard 2017
<b>UN number</b>	3077
<b>DG class</b>	9
<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID N.O.S. (contains zinc sulphate)
<b>Packaging group</b>	III
<b>Hazchem code</b>	2Z
<b>Uses</b>	Raw material for fertilisers

#### Company Details

<b>Company</b>	<b>Mg Minerals Ltd</b>
<b>Address</b>	13A Cliff View Drive Green Bay Auckland New Zealand
<b>Telephone</b>	021 956 534
<b>Website</b>	<a href="http://www.mgminerals.co.nz/">www.mgminerals.co.nz/</a>

**Emergency Telephone Number: 0800 764 766**

### 2. Hazard Identification

#### Approval in New Zealand

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR002503, Additives, Process Chemicals and Raw Materials (Subsidiary Hazard) Group Standard 2017): The substance has been classified as hazardous according to the criteria in the Hazardous substances (Minimum Degrees of Hazard) Notice 2017.

Classes	Hazard Statements
6.1D (oral)	H302 - Harmful if swallowed.
6.9B	H373 - May cause damage to organs through prolonged or repeated exposure.
8.3A	H318 - Causes serious eye damage.
9.1A	H410 - Very toxic to aquatic life with long lasting effects.
9.2C	H423 - Harmful to the soil environment.
9.3C	H433 - Harmful to terrestrial vertebrates.

#### SYMBOLS

# DANGER



#### Other Classifications

No other classifications are known to apply.

#### Precautionary Statements

- P101 - If medical advice is needed, have product container or label at hand.
- 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 eye protection.
- P301+P312 - IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell.
- P330 - Rinse mouth.



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P314 - Get medical advice/attention if you feel unwell.  
P309+P311 - IF exposed or if you feel unwell: Call a POISON CENTRE or doctor/physician.  
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 CENTRE or doctor/physician.  
P391 - Collect spillage.  
P405 - Store locked up.  
P501 - Dispose of contents/container in accordance with local/regional/national/international regulation.

### 3. Composition / Information on Ingredients

Component	CAS/ Identification	Conc (%)
Zinc sulphate monohydrate	7446-19-7	>98%

This is a commercial product whose exact ratio of components may vary. Trace quantities of impurities are also likely.

### 4. First Aid

#### General Information

If medical advice is needed, have product container or label at hand. You should call the National Poisons Centre if you feel that you may have been harmed or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service). IF exposed or if you feel unwell: Call a POISON CENTRE or doctor/physician.

**Recommended first aid facilities** Ready access to running water is required. Accessible eyewash is required.

#### Exposure

**Swallowed** IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell. Rinse mouth. Get medical advice/attention if you feel unwell.

**Eye contact** 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 CENTRE or doctor/physician.

**Skin contact** Flush immediately with large amounts of water. Remove all contaminated clothing. Contact a doctor if experiencing symptoms

**Inhaled** Generally, inhalation of dusts is unlikely to result in adverse health effects. If coughing, dizziness or shortness of breath is experienced, remove the patient to fresh air immediately. If patient is unconscious, place in the recovery position (on the side) for transport and contact a doctor.

#### Advice to Doctor

Treat symptomatically

### 5. Firefighting Measures

**Fire and explosion hazards:** There are no specific risks for fire/explosion for this chemical. It is non-flammable.  
**Suitable extinguishing substances:** Carbon dioxide, extinguishing powder, foam, fog sprays.

**Unsuitable extinguishing substances:** Unknown.

**Products of combustion:** Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Water. May form toxic mixtures in air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures.

**Protective equipment:** Self-contained breathing apparatus. Safety boots, non-flammable overalls, gloves, hat and eye protection.

**Hazchem code:** 2Z

### 6. Accidental Release Measures

**Containment** If greater than 100kg is stored, secondary containment and emergency plans to manage any potential spills must be in place. In all cases design storage to prevent discharge to storm water.

**Emergency procedures** In the event of spillage alert the fire brigade to location and give brief description of hazard. Stop the source of the leak, if safe to do so. Shut off all possible sources of ignition. Wear protective equipment to prevent skin, eye and respiratory exposure. Clear area of any unprotected personnel. Contain using sand, earth or vermiculite. Do not use sawdust. Prevent by whatever means possible any spillage from entering drains, sewers, or water courses. (If this occurs contact your regional council immediately).

**Clean-up method** Use absorbent (soil, sand or other inert material). Rags are not recommended for the clean-up of spills, as they may create fire or environmental hazard. Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.



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<b>Disposal</b>	Mop up and collect recoverable material into labelled containers for recycling or salvage. Recycle containers wherever possible. This material may be suitable for approved landfill. Dispose of only in accord with all regulations.
<b>Precautions</b>	Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation.

### 7. Storage & Handling

<b>Storage</b>	Avoid storage of harmful substances with food. Containers should be kept closed in order to minimise contamination. Keep from extreme heat and open flames. Keep away from moisture. Avoid contact with incompatible substances as listed in Section 10.
<b>Handling</b>	Keep exposure to a minimum, and minimise the quantities kept in work areas. See section 8 with regard to personal protective equipment requirements. Avoid skin and eye contact and inhalation of vapour, mist or aerosols.

### 8. Exposure Controls / Personal Protective Equipment

#### Workplace Exposure Standards

A workplace exposure standard (WES) has not been established by WorkSafe NZ for this product. There is a general limit of 3mg/m<sup>3</sup> for respirable particulates and 10mg/m<sup>3</sup> for inhalable particulates when limits have not otherwise been established.

NZ Workplace Exposure Stds	Ingredient	WES-TWA*	WES-STEL
	Zinc sulphate monohydrate	Not listed	Not listed

#### Engineering Controls

In industrial situations, it is expected that employee exposure to hazardous substances will be controlled to a level as far below the WES as practicable by applying the hierarchy of control required by the Health and Safety at Work Act (2015) and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016. Exposure can be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe airborne concentrations of mists, dusts or vapours are high, you are advised to modify processes or increase ventilation.

#### Personal Protective Equipment

##### Eyes



Protect eyes with goggles, safety glasses or full face mask. Avoid wearing contact lenses. Select eye protection in accordance with AS/NZS 1337.

##### Skin

Avoid any skin contact. Wear overalls, rubber boots and impervious gloves. Protective gloves or suitably resistant material must comply with AS 2161. Replace frequently. Gloves should be checked for tears or holes before use. Protective clothing must comply with AS 2919, AS3765.1 or AS3765.2. PVC or rubber boots must comply with AS/NZS 2210.2 and selected and maintained in accordance with AS/NS2210.1. Remove protective clothing and wash exposed areas with soap and water prior to eating, drinking or smoking.

##### Respiratory

A respirator when airborne concentrations approach the WES (section 8). Respirators must have filters appropriate to the duty and comply with AS/NZS1716 and selected, used and maintained in accordance with AS/NS 1715. Use a respirator with a particulate filter. If using a respirator, ensure that the cartridges are correct for the potential air contamination and are in good working order. Fit testing and clear guidelines and training for use and maintenance of PPE are necessary.

#### WES Additional Information

Not applicable

### 9. Physical & Chemical Properties

<b>Appearance</b>	white crystalline powder 5-10mesh
<b>Odour</b>	slight odour
<b>pH</b>	no data
<b>Vapour pressure</b>	no data
<b>Viscosity</b>	not applicable (solid)
<b>Boiling point</b>	no data
<b>Volatile materials</b>	no data
<b>Freezing / melting point</b>	no data
<b>Solubility</b>	soluble in water
<b>Specific gravity / density</b>	no data
<b>Flash point</b>	not flammable
<b>Danger of explosion</b>	no data



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Auto-ignition temperature	no data
Upper & lower flammable limits	no data
Corrosiveness	non corrosive

### 10. Stability & Reactivity

<b>Stability</b>	Stable
<b>Conditions to be avoided</b>	Containers should be kept closed in order to avoid contamination. Keep from extreme heat and open flames.
<b>Incompatible groups</b>	Alkalis
<b>Substance Specific Incompatibility</b>	none known
<b>Hazardous decomposition products</b>	Sulphur oxides, zinc oxides.
<b>Hazardous reactions</b>	none known

### 11. Toxicological Information

#### Summary

IF SWALLOWED: may cause gastrointestinal irritation with nausea, vomiting and diarrhoea.

IF IN EYES: may cause serious eye damage.

IF ON SKIN: not considered an irritant.

IF INHALED: may cause respiratory irritation and irritation of the mucous membranes.

CHRONIC TOXICITY: may affect the blood and haematopoietic system

#### Supporting Data

<b>Acute</b>	<b>Oral</b>	LD <sub>50</sub> 's for Zinc sulphate monohydrate 1891mg/kg (mouse).
	<b>Dermal</b>	No evidence of dermal toxicity.
<b>Chronic</b>	<b>Inhaled</b>	No evidence of inhalation acute toxicity.
	<b>Eye</b>	Zinc sulphate is considered an eye corrosive.
	<b>Skin</b>	Zinc sulphate is not considered to be a skin irritant.
	<b>Sensitisation</b>	No ingredient present at concentrations > 0.1% is considered a sensitizer.
	<b>Mutagenicity</b>	No ingredient present at concentrations > 0.1% is considered a mutagen.
	<b>Carcinogenicity</b>	No ingredient present at concentrations > 0.1% is considered a carcinogen.
	<b>Reproductive / Developmental</b>	No ingredient present at concentrations > 0.1% is considered a reproductive or developmental toxicant or have any effects on or via lactation.
	<b>Systemic</b>	Zinc sulphate is classed 6.9B by EPA.
	<b>Aggravation of existing conditions</b>	None known.

### 12. Ecological Data

#### Summary

Zinc sulphate is considered very toxic towards aquatic organisms, harmful to soil environment and harmful to terrestrial vertebrates.

#### Supporting Data

<b>Aquatic</b>	EC <sub>50</sub> 's for Zinc sulphate monohydrate 0.30179 mg/l (fish).
<b>Bioaccumulation</b>	No data
<b>Degradability</b>	No data
<b>Soil</b>	EPA has classified zinc sulphate as harmful to the soil environment, with a soil ecotoxicity value between 10 and 100 mg/kg and a soil DT50 value of > 30 days.
<b>Terrestrial vertebrate</b>	See acute toxicity.
<b>Terrestrial invertebrate</b>	No evidence of toxicity towards terrestrial invertebrates.
<b>Biocidal</b>	no data

### 13. Disposal Considerations

<b>Restrictions</b>	There are no product-specific restrictions, however, local council and resource consent conditions may apply, including requirements of trade waste consents.
<b>Disposal method</b>	Disposal of this product must comply with the Hazardous Substances (Disposal) Notice 2017 and the requirements of the Resource Management Act for which approval should be sought from the Regional Authority. The substance must be treated and therefore rendered non-hazardous before discharge to the environment.
<b>Contaminated packaging</b>	Disposal of contaminated packaging must comply with the Hazardous Substances (Disposal) Notice 2017 clause 12. Ensure that the package is rendered incapable of containing any substance and is disposed in a manner that is consistent with the requirements of the substance it contained and the material of the package. If possible reuse or recycle packaging.



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### 14. Transport Information

**Land Transport Rule: Dangerous Goods 2005 - NZS 5433:2007**

Transport according to NZS 5433 (Transport of Hazardous Substances on Land). Considered a dangerous good for transport.

<b>UN number:</b>	3077	<b>Proper shipping name:</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID N.O.S. (contains zinc sulphate)
<b>Class(es)</b>	9	<b>Packing group:</b>	III
<b>Precautions:</b>	Marine pollutant	<b>Hazchem code:</b>	2Z

### 15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR002503, Additives, Process Chemicals and Raw Materials (Subsidiary Hazard) Group Standard 2017. All ingredients appear on the New Zealand Inventory of Chemicals NZIoC.

#### Specific Controls

Key workplace requirements are:

SDS	To be available within 10 minutes in workplaces storing any quantity.
Inventory	An inventory of all hazardous substances must be prepared and maintained.
Packaging	All hazardous substances should be appropriately packaged including substances that have been decanted, transferred or manufactured for own use or have been supplied
Labelling	Must comply with the Hazardous Substances (Labelling) Notice 2017.
Emergency plan	Required if > 100kg is stored.
Certified handler	Not required.
Tracking	Not required.
Bundling & secondary containment	Required if > 100kg is stored.
Signage	Required if > 100kg is stored.
Location compliance certificate	Not required.
Flammable zone	Not required.
Fire extinguisher	Not required.

Note: The above workplace requirements apply if only this particular substance is present. The complete set of controls for a location will depend on the classification and total quantities of other substances present in that location.

#### Other Legislation

In New Zealand, the use of this product may come under the Resource Management Act and Regulations, the Health and Safety at Work Act 2015 and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016, local Council Rules and Regional Council Plans.

### 16. Other Information

#### Abbreviations

<b>Approval Code</b>	Approval HSR002503, Additives, Process Chemicals and Raw Materials (Subsidiary Hazard) Group Standard 2017 Controls, EPA. <a href="http://www.epa.govt.nz">www.epa.govt.nz</a>
<b>CAS Number</b>	Unique Chemical Abstracts Service Registry Number
<b>EC<sub>50</sub></b>	Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species)
<b>EPA</b>	Environmental Protection Authority (New Zealand)
<b>GHS</b>	Globally Harmonised System of Classification and Labelling of Chemicals
<b>HAZCHEM Code</b>	Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters
<b>HSNO</b>	Hazardous Substances and New Organisms (Act and Regulations)
<b>IARC</b>	International Agency for Research on Cancer
<b>LEL/UEL</b>	Lower Explosive Limit/ Upper Explosive Limit
<b>LD<sub>50</sub></b>	Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).
<b>LC<sub>50</sub></b>	Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats)
<b>MSDS (SDS)</b>	Material Safety Data Sheet (or Safety Data Sheet)
<b>NZIoC</b>	New Zealand Inventory of Chemicals
<b>STEL</b>	Short Term Exposure Limit - The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15 minute period, provided the TWA is not exceeded
<b>TWA</b>	Time Weighted Average – generally referred to WES averaged over typical work day (usually 8 hours)



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**UN Number**  
**WES**

United Nations Number  
Workplace Exposure Standard - The airborne concentration of a biological or chemical agent to which a worker may be exposed during work hours (usually 8 hours, 5 days a week). The WES relates to exposure that has been measured by personal monitoring using procedures that gather air samples in the worker's breathing zone.

**References**

**Data**

Unless otherwise stated comes from the EPA HSNO chemical classification information database (CCID).

**Controls**

EPA notices, [www.epa.govt.nz](http://www.epa.govt.nz), Health and Safety at Work (Hazardous Substances) Regulations 2017, [www.legislation.govt.nz](http://www.legislation.govt.nz)

**WES**

The latest NZ Workplace Exposure Standards, published by WorkSafe NZ and available on their web site – [www.worksafe.govt.nz](http://www.worksafe.govt.nz).

**Other References:**

Suppliers SDS, EU ECHA, ingredients SDS's, ChemIDplus

**Review**

**Date**

September 2019

**Reason for review**

Not applicable – new SDS

**Disclaimer**

This SDS was prepared by Datachem LTD and is based on our current state of knowledge, including information obtained from suppliers. The SDS is given in good faith and constitutes a guideline (not a guarantee of safety). The level of risk each substance poses is relevant to its properties (as summarised in the SDS) AND HOW THE SUBSTANCE IS USED. While guidelines are given for personal protective equipment, such precautions must be relevant to the use. The likely HSNO classifications for this SDS have been estimated based on general information from the supplier (e.g., hazard, toxicological). This SDS is copyright Datachem and must not be copied, edited or used for other than intended purpose. To contact the SDS author, email [info@datachem.co.nz](mailto:info@datachem.co.nz) or phone: +64 9 940 30 80.

