



**SAFETY DATA SHEET**  
**ZINC SULPHATE, HEPTAHYDRATE (APVMA)**  
**REVISION 3, DATE 20 APR 20**

## 1. IDENTIFICATION

<b>Product Name</b>	<b>Zinc sulphate, heptahydrate (APVMA)</b>
<b>Other Names</b>	No Data Available
<b>Uses</b>	Fertiliser additive and animal health product.
<b>Chemical Family</b>	No Data Available
<b>Chemical Formula</b>	ZnSO <sub>4</sub> .7H <sub>2</sub> O
<b>Chemical Name</b>	Sulfuric acid, zinc salt (1:1), heptahydrate
<b>Product Description</b>	No Data Available

### Contact Details of the Supplier of this Safety Data Sheet

<b>Organisation</b>	<b>Location</b>	<b>Telephone</b>
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

### Emergency Contact Details

*For emergencies only; DO NOT contact these companies for general product advice.*

<b>Organisation</b>	<b>Location</b>	<b>Telephone</b>
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

## 2. HAZARD IDENTIFICATION

### Poisons Schedule (Aust)

Schedule 6



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## Globally Harmonised System

**Hazard Classification** Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

**Hazard Categories** Acute Toxicity (Oral) - Category 4  
Serious Eye Damage/Irritation - Category 1  
Acute Hazard To The Aquatic Environment - Category 1  
Long-term Hazard To The Aquatic Environment - Category 1

## Pictograms



**Signal Word** Danger

**Hazard Statements**

<b>H302</b>	Harmful if swallowed.
<b>H318</b>	Causes serious eye damage.
<b>H410</b>	Very toxic to aquatic life with long lasting effects.

<b>Precautionary Statements</b>	Prevention	<b>P280</b>	Wear eye protection/face protection.
		<b>P273</b>	Avoid release to the environment.
		<b>P264</b>	Wash hands thoroughly after handling.
		<b>P270</b>	Do not eat, drink or smoke when using this product.
	Response	<b>P305 + P351 + P338 + P310</b>	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/doctor.
		<b>P391</b>	Collect spillage.
		<b>P301 + P312</b>	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
		<b>P330</b>	Rinse mouth.
	Disposal	<b>P501</b>	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 Amendment Act 2015

<b>HSNO Classifications</b>	Health Hazards	<b>6.1D</b>	Substances that are acutely toxic - Harmful
		<b>6.9B</b>	Substances that are harmful to human target organs or systems
		<b>8.3A</b>	Substances that are corrosive to ocular tissue
	Environmental Hazards	<b>9.1A</b>	Substances that are very ecotoxic in the aquatic environment
		<b>9.3C</b>	Substances that are harmful to terrestrial vertebrates

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Ingredients**

Chemical Entity	Formula	CAS Number	Proportion
Zinc sulphate, heptahydrate	ZnSO4.7H2O	7446-20-0	<=100 %

**4. FIRST AID MEASURES****Description of necessary measures according to routes of exposure**

<b>Swallowed</b>	IF SWALLOWED: Rinse mouth, then drink plenty of water. Do NOT induce vomiting. Call a Poison Centre or doctor/physician for advice. Never give anything by mouth to an unconscious person.
<b>Eye</b>	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. Immediately call a Poison Centre or doctor/physician for advice.
<b>Skin</b>	IF ON SKIN (or hair): Remove contaminated clothing and shoes immediately. Flush skin and hair with running water for at least 15 minutes. If skin irritation occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse.
<b>Inhaled</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention. Apply resuscitation if victim is not breathing - Administer oxygen if breathing is difficult.
<b>Advice to Doctor</b>	Treat symptomatically. Keep victim calm and warm - Obtain immediate medical care. Ensure that attending medical personnel are aware of the identity and nature of the product(s) involved, and take precautions to protect themselves.
<b>Medical Conditions Aggravated by Exposure</b>	No information available.

**5. FIRE FIGHTING MEASURES**

<b>General Measures</b>	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
<b>Flammability Conditions</b>	Non-combustible; Material does not burn.
<b>Extinguishing Media</b>	If material is involved in a fire, use dry chemical, Carbon dioxide (CO2), water spray or foam for extinction.
<b>Fire and Explosion Hazard</b>	Decomposes on heating, emitting toxic fumes,
<b>Hazardous Products of Combustion</b>	Fire or heat may produce irritating, toxic and/or corrosive fumes, including Sulfur oxides, Zinc oxides.
<b>Special Fire Fighting Instructions</b>	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
<b>Personal Protective Equipment</b>	Wear self-contained breathing apparatus (SCBA) and chemical splash suit. SCBA and structural firefighter's uniform may provide limited protection.
<b>Flash Point</b>	No Data Available
<b>Lower Explosion Limit</b>	No Data Available
<b>Upper Explosion Limit</b>	No Data Available
<b>Auto Ignition Temperature</b>	No Data Available
<b>Hazchem Code</b>	22

**6. ACCIDENTAL RELEASE MEASURES**

<b>General Response Procedure</b>	Ensure adequate ventilation. Do not touch or walk through spilled material - Slippery when spilt. Avoid generating dust.
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	Avoid breathing dust and contact with eyes, skin and clothing.
<b>Clean Up Procedures</b>	Collect material (sweep up and shovel) and keep in suitable, properly labelled containers for disposal (see SECTION 13).
<b>Containment</b>	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Prevent dust cloud.
<b>Decontamination</b>	No information available.
<b>Environmental Precautionary Measures</b>	Spillages and decontamination runoff should be prevented from entering drains and watercourses. If contamination of sewers or waterways has occurred advise local emergency services.
<b>Evacuation Criteria</b>	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground.
<b>Personal Precautionary Measures</b>	Use personal protective equipment as required (see SECTION 8).

## 7. HANDLING AND STORAGE

<b>Handling</b>	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). Avoid release to the environment - Collect spillage (see SECTION 6).
<b>Storage</b>	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep containers closed when not in use - check regularly for spills. Protect from moisture (hygroscopic). Store away from foodstuffs and incompatible materials (see SECTION 10).
<b>Container</b>	Keep in the original container.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>General</b>	No specific exposure standards are available for this product. For dusts from solid substances without specific occupational exposure standards: - Safe Work Australia Exposure Standard (Nuisance dusts): 8 hr TWA = 10 mg/m <sup>3</sup> (measured as inhalable dust). - New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m <sup>3</sup> ; TWA = 3 mg/m <sup>3</sup> (respirable dust).
<b>Exposure Limits</b>	No Data Available
<b>Biological Limits</b>	No information available.
<b>Engineering Measures</b>	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.
<b>Personal Protection Equipment</b>	- Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Dust mask/particulate filter respirator (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Chemical goggles or face shield and safety glasses. - Hand protection: Handle with gloves. Recommended: Impervious gloves, e.g. Nitrile rubber. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Overalls, safety shoes.
<b>Special Hazards Precautions</b>	No information available.
<b>Work Hygienic Practices</b>	Do not eat, drink or smoke when using this product. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Solid
<b>Appearance</b>	Crystals
<b>Odour</b>	Odourless

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<b>Colour</b>	White
<b>pH</b>	4.0 - 6.0 50 g/l (20 °C)
<b>Vapour Pressure</b>	No Data Available
<b>Relative Vapour Density</b>	No Data Available
<b>Boiling Point</b>	>500 °C (Decomposes)
<b>Melting Point</b>	100 °C
<b>Freezing Point</b>	No Data Available
<b>Solubility</b>	Soluble in water
<b>Specific Gravity</b>	1.96 - 1.97
<b>Flash Point</b>	No Data Available
<b>Auto Ignition Temp</b>	No Data Available
<b>Evaporation Rate</b>	No Data Available
<b>Bulk Density</b>	No Data Available
<b>Corrosion Rate</b>	No Data Available
<b>Decomposition Temperature</b>	No Data Available
<b>Density</b>	No Data Available
<b>Specific Heat</b>	No Data Available
<b>Molecular Weight</b>	No Data Available
<b>Net Propellant Weight</b>	No Data Available
<b>Octanol Water Coefficient</b>	No Data Available
<b>Particle Size</b>	No Data Available
<b>Partition Coefficient</b>	No Data Available
<b>Saturated Vapour Concentration</b>	No Data Available
<b>Vapour Temperature</b>	No Data Available
<b>Viscosity</b>	No Data Available
<b>Volatile Percent</b>	No Data Available
<b>VOC Volume</b>	No Data Available
<b>Additional Characteristics</b>	No information available.
<b>Potential for Dust Explosion</b>	No information available.
<b>Fast or Intensely Burning Characteristics</b>	No information available.
<b>Flame Propagation or Burning Rate of Solid Materials</b>	No information available.
<b>Non-Flammables That Could Contribute Unusual Hazards to a Fire</b>	No information available.
<b>Properties That May Initiate or Contribute to Fire Intensity</b>	Non-combustible; Material does not burn.
<b>Reactions That Release Gases or Vapours</b>	Fire or heat may produce irritating, toxic and/or corrosive fumes, including Sulfur oxides, Zinc oxides.
<b>Release of Invisible Flammable Vapours and Gases</b>	No information available.

**10. STABILITY AND REACTIVITY**

<b>General Information</b>	No information available.
<b>Chemical Stability</b>	Stable under recommended storage conditions.
<b>Conditions to Avoid</b>	Avoid generating dust. Protect from moisture (hygroscopic).

<b>Materials to Avoid</b>	Incompatible/reactive with acids, strong oxidising agents.
<b>Hazardous Decomposition Products</b>	Fire or heat may produce irritating, toxic and/or corrosive fumes, including Sulfur oxides, Zinc oxides.
<b>Hazardous Polymerisation</b>	Hazardous polymerisation will not occur.

## 11. TOXICOLOGICAL INFORMATION

<b>General Information</b>	<ul style="list-style-type: none"><li>- Acute toxicity: Harmful if swallowed; Ingestion can result in nausea, vomiting, diarrhoea and gastrointestinal irritation.</li><li>- Skin corrosion/irritation: Contact with skin may result in irritation. Prolonged skin contact can produce dermatitis.</li><li>- Eye damage/irritation: Causes serious eye damage.</li><li>- Respiratory/skin sensitisation: Not a skin sensitiser.</li><li>- Germ cell mutagenicity: Not anticipated to be genotoxic; Weight of evidence indicates the chemical is not mutagenic to germ cells.</li><li>- Carcinogenicity: No information available.</li><li>- Reproductive toxicity: While fertility toxicity has been observed at very high doses, the levels at which this occurs are unlikely to result from industrial use.</li><li>- STOT (single exposure): Breathing in dust or fume may result in respiratory irritation. Severe overexposure may result in bronchitis or pneumonia, burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting, airway resistance, cardiovascular effects, pulmonary edema.</li><li>- STOT (repeated exposure): Not considered to cause serious damage to health from repeated exposure.</li><li>- Aspiration toxicity: No information available.</li></ul>
<b>Acute</b>	
<b>Ingestion</b>	Acute toxicity (Oral): - LD50, Rat: 1,260 mg/kg.
<b>Carcinogen Category</b>	None

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	No information available.
<b>Persistence/Degradability</b>	No information available.
<b>Mobility</b>	No information available.
<b>Environmental Fate</b>	Very toxic to aquatic life with long lasting effects - Avoid release to the environment.
<b>Bioaccumulation Potential</b>	No information available.
<b>Environmental Impact</b>	No Data Available

## 13. DISPOSAL CONSIDERATIONS

<b>General Information</b>	Dispose of contents/container in accordance with local/regional/national regulations.
<b>Special Precautions for Land Fill</b>	No information available.

## 14. TRANSPORT INFORMATION

**Land Transport (Australia)**

ADG Code

<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc sulphate, heptahydrate)
<b>Class</b>	9 Miscellaneous Dangerous Goods and Articles
<b>Subsidiary Risk(s)</b>	No Data Available
<b>EPG</b>	47 Low To Moderate Hazard Substances
<b>UN Number</b>	3077
<b>Hazchem</b>	2Z
<b>Pack Group</b>	III
<b>Special Provision</b>	AU01

**Land Transport (Malaysia)**

ADR Code

<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc sulphate, heptahydrate)
<b>Class</b>	9 Miscellaneous Dangerous Goods and Articles
<b>Subsidiary Risk(s)</b>	No Data Available
<b>EPG</b>	47 Low To Moderate Hazard Substances
<b>UN Number</b>	3077
<b>Hazchem</b>	2Z
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

**Land Transport (New Zealand)**

NZS5433

<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc sulphate, heptahydrate)
<b>Class</b>	9 Miscellaneous Dangerous Goods and Articles
<b>Subsidiary Risk(s)</b>	No Data Available
<b>EPG</b>	47 Low To Moderate Hazard Substances
<b>UN Number</b>	3077
<b>Hazchem</b>	2Z
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

**Land Transport (United States of America)**

US DOT

<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc sulphate, heptahydrate)
<b>Class</b>	9 Miscellaneous Dangerous Goods and Articles
<b>Subsidiary Risk(s)</b>	No Data Available
<b>ERG</b>	171 Substances (Low to Moderate Hazard)
<b>UN Number</b>	3077
<b>Hazchem</b>	2Z
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

**Sea Transport**

IMDG Code

<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc sulphate, heptahydrate)
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Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
UN Number	3077
Hazchem	2Z
Pack Group	III
Special Provision	No Data Available
EMS	F-A, S-F
Marine Pollutant	Yes

**Air Transport**

IATA DGR

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc sulphate, heptahydrate)
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
UN Number	3077
Hazchem	2Z
Pack Group	III
Special Provision	No Data Available

**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)
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**15. REGULATORY INFORMATION**

General Information	No Data Available
Poisons Schedule (Aust)	Schedule 6

**Environmental Protection Authority (New Zealand)**

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	HSR002503
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**National/Regional Inventories**

Australia (AIC)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	Not Determined
Europe (REACH)	Not Determined



Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Not Determined

## 16. OTHER INFORMATION

Related Product Codes	ZISULP0700, ZISULP1803, ZISULP1826
Revision	3
Revision Date	20 Apr 2020
Key/Legend	<p>&lt; Less Than &gt; Greater Than</p> <p><b>AICS</b> Australian Inventory of Chemical Substances  <b>atm</b> Atmosphere  <b>CAS</b> Chemical Abstracts Service (Registry Number)  <b>cm<sup>2</sup></b> Square Centimetres  <b>CO<sub>2</sub></b> Carbon Dioxide  <b>COD</b> Chemical Oxygen Demand  <b>deg C (°C)</b> Degrees Celcius  <b>EPA (New Zealand)</b> Environmental Protection Authority of New Zealand  <b>deg F (°F)</b> Degrees Farenheit  <b>g</b> Grams  <b>g/cm<sup>3</sup></b> Grams per Cubic Centimetre  <b>g/l</b> Grams per Litre  <b>HSNO</b> Hazardous Substance and New Organism  <b>IDLH</b> Immediately Dangerous to Life and Health  <b>immiscible</b> Liquids are insoluable in each other.  <b>inHg</b> Inch of Mercury  <b>inH<sub>2</sub>O</b> Inch of Water  <b>K</b> Kelvin  <b>kg</b> Kilogram  <b>kg/m<sup>3</sup></b> Kilograms per Cubic Metre  <b>lb</b> Pound  <b>LC<sub>50</sub></b> LC stands for lethal concentration. LC<sub>50</sub> is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.  <b>LD<sub>50</sub></b> LD stands for Lethal Dose. LD<sub>50</sub> is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.  <b>ltr or L</b> Litre  <b>m<sup>3</sup></b> Cubic Metre  <b>mbar</b> Millibar  <b>mg</b> Milligram  <b>mg/24H</b> Milligrams per 24 Hours  <b>mg/kg</b> Milligrams per Kilogram  <b>mg/m<sup>3</sup></b> Milligrams per Cubic Metre  <b>Misc or Miscible</b> Liquids form one homogeneous liquid phase regardless of the amount of either component present.  <b>mm</b> Millimetre</p>

**mmH<sub>2</sub>O** Millimetres of Water  
**mPa.s** Millipascals per Second  
**N/A** Not Applicable  
**NIOSH** National Institute for Occupational Safety and Health  
**NOHSC** National Occupational Health and Safety Commission  
**OECD** Organisation for Economic Co-operation and Development  
**Oz** Ounce  
**PEL** Permissible Exposure Limit  
**Pa** Pascal  
**ppb** Parts per Billion  
**ppm** Parts per Million  
**ppm/2h** Parts per Million per 2 Hours  
**ppm/6h** Parts per Million per 6 Hours  
**psi** Pounds per Square Inch  
**R** Rankine  
**RCP** Reciprocal Calculation Procedure  
**STEL** Short Term Exposure Limit  
**TLV** Threshold Limit Value  
**tne** Tonne  
**TWA** Time Weighted Average  
**ug/24H** Micrograms per 24 Hours  
**UN** United Nations  
**wt** Weight