

1. IDENTIFICATION

Product Name	Magnesium sulfate, heptahydrate
Other Names	Sulfuric acid magnesium salt (1:1), heptahydrate
Uses	No Data Available
Chemical Family	No Data Available
Chemical Formula	MgSO ₄ .7H ₂ O
Chemical Name	Sulfuric acid, magnesium salt, heptahydrate
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty 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.

Organisation	Location	Telephone
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) Not scheduled

Globally Harmonised System

Hazard Classification NOT hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Signal Word None

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)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Magnesium sulfate, heptahydrate	MgSO ₄ .7H ₂ O	10034-99-8	<=100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth, then drink plenty of water. If vomiting occurs, drink further water. Get medical advice/attention if you feel unwell. Never give anything by mouth to an unconscious person.
Eye	IF IN EYES: Rinse cautiously with 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. If eye irritation occurs, get medical advice/attention.
Skin	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing until recovered. If respiratory symptoms persist, get medical advice/attention. Apply resuscitation if victim is not breathing. Administer oxygen if breathing is difficult.
Advice to Doctor	Treat symptomatically.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
Flammability Conditions	Non-combustible; Material does not burn.
Extinguishing Media	If material is involved in a fire, use dry chemical, Carbon dioxide, foam or water spray for extinction.
Fire and Explosion Hazard	No information available.
Hazardous Products of Combustion	Fire or heat will produce irritating and/or toxic fumes, including oxides of Sulfur, Magnesium oxide.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
Personal Protective Equipment	Wear self-contained breathing apparatus (SCBA) in combination with normal firefighting clothing (fire kit).
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	Ensure adequate ventilation. Do not touch or walk through spilled material - Slippery when spilt. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.
Clean Up Procedures	Collect material (vacuum or sweep up) and place into suitable containers for later disposal (see SECTION 13); if appropriate, moisten first to prevent dusting.
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Prevent dust cloud.
Decontamination	Wash area down with excess water.
Environmental Precautionary Measures	Prevent entry into drains and waterways.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away; Keep upwind.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8).

7. HANDLING AND STORAGE

Handling	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. Use personal protective equipment as required (see SECTION 8).
Storage	Store in a cool, dry and well-ventilated place. Keep container tightly closed when not in use - check regularly for spills. Keep away from incompatible materials (acids, strong oxidising agents).
Container	Keep in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	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 ³ (measured as inhalable dust). - New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m ³ (total); TWA = 3 mg/m ³ (respirable).
Exposure Limits	No Data Available
Biological Limits	No information available on biological limit values 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. Ensure ventilation is adequate to maintain air concentrations below workplace exposure standards.
Personal Protection Equipment	Respiratory protection: In case of inadequate ventilation or if an inhalation risk exists, wear respiratory protection. Recommended: Type P1 dust mask/respirator. Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses. Use equipment for eye protection tested and approved under appropriate government standards. Hand protection: Handle with gloves. Recommended (full/splash contact): Impervious gloves, e.g. Nitrile rubber (Minimum layer thickness: 0.11 mm; Break through time: 480 min). Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Overalls, safety shoes. The type of protective equipment must be selected according to the concentration and amount of the hazardous substance(s) at the specific workplace.
Special Hazards Precautions	No information available.
Work Hygienic Practices	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

Physical State	Solid
Appearance	Crystals/powder
Odour	Odourless
Colour	White
pH	6 - 8
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	No Data Available
Melting Point	No Data Available
Freezing Point	No Data Available
Solubility	Soluble in water
Specific Gravity	No Data Available
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	No information available.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Non-combustible; Material does not burn.
Reactions That Release Gases or Vapours	Fire or heat will produce irritating and/or toxic fumes, including oxides of Sulfur, Magnesium oxide.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	No information available.
Chemical Stability	Stable under recommended storage conditions.
Conditions to Avoid	Avoid dust generation.
Materials to Avoid	Incompatible/reactive with acids, strong oxidising agents.
Hazardous Decomposition Products	Fire or heat will produce irritating and/or toxic fumes, including oxides of Sulfur, Magnesium oxide.
Hazardous Polymerisation	No information available.

11. TOXICOLOGICAL INFORMATION

General Information	Information on possible routes of exposure: - Ingestion: May cause a laxative effect if swallowed. - Eye contact: The dust may cause (physical) eye irritation due to particulate nature. - Skin contact: May cause skin irritation. - Inhalation: he dust may cause respiratory irritation.
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	No information available.
Persistence/Degradability	No information available.
Mobility	No information available.
Environmental Fate	Prevent entry into drains and waterways.
Bioaccumulation Potential	No information available.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of contents/container to a licensed disposal company, and in accordance with local/regional/national regulations.
Special Precautions for Land Fill	Contaminated packaging: Dispose of as unused product.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	Magnesium sulfate, heptahydrate
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available

Special Provision No Data Available
Comments NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (China)

Proper Shipping Name Magnesium sulfate, heptahydrate
Class No Data Available
Subsidiary Risk(s) No Data Available
No Data Available
UN Number No Data Available
Hazchem No Data Available
Pack Group No Data Available
Special Provision No Data Available
Comments NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (Fiji)

Proper Shipping Name Magnesium sulfate, heptahydrate
Class No Data Available
Subsidiary Risk(s) No Data Available
No Data Available
UN Number No Data Available
Hazchem No Data Available
Pack Group No Data Available
Special Provision No Data Available
Comments NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (Malaysia)

ADR Code

Proper Shipping Name Magnesium sulfate, heptahydrate
Class No Data Available
Subsidiary Risk(s) No Data Available
No Data Available
UN Number No Data Available
Hazchem No Data Available
Pack Group No Data Available
Special Provision No Data Available
Comments NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (New Zealand)

NZS5433

Proper Shipping Name Magnesium sulfate, heptahydrate
Class No Data Available
Subsidiary Risk(s) No Data Available
No Data Available
UN Number No Data Available
Hazchem No Data Available
Pack Group No Data Available
Special Provision No Data Available
Comments NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (United States of America)

US DOT

Proper Shipping Name	Magnesium sulfate, heptahydrate
Class	No Data Available
Subsidiary Risk(s)	No Data Available No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Sea Transport

IMDG Code

Proper Shipping Name	Magnesium sulfate, heptahydrate
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	No
Comments	NON-DANGEROUS GOODS: Not regulated for SEA transport.

Air Transport

IATA DGR

Proper Shipping Name	Magnesium sulfate, heptahydrate
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for AIR transport.

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)	Not scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code Not Hazardous

National/Regional Inventories

Australia (AICS)	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 MASULB9800, MASULP0002, MASULP0100, MASULP0101, MASULP0200, MASULP0300, MASULP0310, MASULP0311, MASULP0500, MASULP0501, MASULP0600, MASULP0601, MASULP0800, MASULP0801, MASULP0850, MASULP0900, MASULP0901, MASULP1000, MASULP1001, MASULP1002, MASULP1003, MASULP1004, MASULP1005, MASULP1006, MASULP1007, MASULP1008, MASULP1009, MASULP1010, MASULP1011, MASULP1012, MASULP1013, MASULP1014, MASULP1015, MASULP1016, MASULP1017, MASULP1018, MASULP1019, MASULP1020, MASULP1021, MASULP1022, MASULP1023, MASULP1024, MASULP1025, MASULP1030, MASULP1035, MASULP1050, MASULP1055, MASULP1056, MASULP1060, MASULP1065, MASULP1088, MASULP1090, MASULP1091, MASULP1100, MASULP1101, MASULP1102, MASULP1103, MASULP1200, MASULP1201, MASULP1400, MASULP1401, MASULP1402, MASULP1403, MASULP1404, MASULP1405, MASULP1406, MASULP1407, MASULP1408, MASULP1409, MASULP1410, MASULP1411, MASULP1412, MASULP1413, MASULP1414, MASULP1415, MASULP1416, MASULP1417, MASULP1418, MASULP1419, MASULP1420, MASULP1421, MASULP1422, MASULP1423, MASULP1424, MASULP1425, MASULP1430, MASULP1488, MASULP1700, MASULP1800, MASULP1801, MASULP1802, MASULP1803, MASULP1804, MASULP1805, MASULP1806, MASULP1807, MASULP1808, MASULP1809, MASULP1810, MASULP1811, MASULP1812, MASULP1813, MASULP1820, MASULP1830, MASULP1831, MASULP1840, MASULP1850, MASULP1888, MASULP1900, MASULP2000, MASULP2001, MASULP2002, MASULP2003, MASULP2004, MASULP2005, MASULP2006, MASULP2007, MASULP2008, MASULP2009, MASULP2020, MASULP2030, MASULP2040, MASULP2050, MASULP2100, MASULP2101, MASULP2200, MASULP2201, MASULP2202, MASULP2300, MASULP2301, MASULP2302, MASULP2400, MASULP2401, MASULP2402, MASULP2606, MASULP2700, MASULP2701, MASULP2800, MASULP2900, MASULP2901, MASULP2902, MASULP2903, MASULP2904, MASULP2905, MASULP2906, MASULP2907, MASULP2910, MASULP2913, MASULP2915, MASULP2920, MASULP2921, MASULP2922, MASULP2923, MASULP2925, MASULP2930, MASULP2931, MASULP2933, MASULP3000, MASULP3001, MASULP3002, MASULP3100,

MASULP3101, MASULP3110, MASULP3200, MASULP3201, MASULP3300, MASULP3301, MASULP3302, MASULP3310, MASULP3311, MASULP3312, MASULP3330, MASULP3331, MASULP3332, MASULP3333, MASULP3334, MASULP3600, MASULP4000, MASULP4001, MASULP4002, MASULP4003, MASULP4004, MASULP4100, MASULP4200, MASULP4201, MASULP4300, MASULP4400, MASULP4500, MASULP4501, MASULP4502, MASULP4600, MASULP5000, MASULP5500, MASULP6000, MASULP6500, MASULP6501, MASULP6600, MASULP7000, MASULP7001, MASULP7300, MASULP7500, MASULP7501, MASULP7600, MASULP7700, MASULP7701, MASULP7702, MASULP7703, MASULP7704, MASULP7710, MASULP7800, MASULP8000, MASULP8001, MASULP8002, MASULP8600, MASULP8900, MASULP8901, MASULP8902, MASULP8904, MASULP8910, MASULP8911, MASULP8950, MASULP9000, MASULP9100, MASULP9250, MASULP9300, MASULP9400, MASULP9500, MASULP9501, MASULP9505, MASULP9510, MASULP9511, MASULP9512, MASULP9518, MASULP9540, MASULP9550, MASULP9600, MASULP9601, MASULP9602, MASULP9603, MASULP9610, MASULP9611, MASULP9618, MASULP9620, MASULP9630, MASULP9700, MASULP9701, MASULP9702, MASULP9710, MASULP9720, MASULP9730, MASULP9740, MASULP9741, MASULP9780, MASULP9790, MASULP9800, MASULP9801, MASULP9802, MASULP9840, MASULP9890, MASULP9900, MASULP9901, MASULS1000, MASULS9800, MASUPH1000, MASUPH2000, MASUPH3000, MASUPH4000

Revision	3
Revision Date	21 Sep 2017
Reason for Issue	SDS updated
Key/Legend	< Less Than > Greater Than AICS Australian Inventory of Chemical Substances atm Atmosphere CAS Chemical Abstracts Service (Registry Number) cm² Square Centimetres CO₂ Carbon Dioxide COD Chemical Oxygen Demand deg C (°C) Degrees Celcius EPA (New Zealand) Environmental Protection Authority of New Zealand deg F (°F) Degrees Farenheit g Grams g/cm³ Grams per Cubic Centimetre g/l Grams per Litre HSNO Hazardous Substance and New Organism IDLH Immediately Dangerous to Life and Health immiscible Liquids are insoluable in each other. inHg Inch of Mercury inH₂O Inch of Water K Kelvin kg Kilogram kg/m³ Kilograms per Cubic Metre lb Pound LC₅₀ LC stands for lethal concentration. LC ₅₀ 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. LD₅₀ LD stands for Lethal Dose. LD ₅₀ is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals. ltr or L Litre m³ Cubic Metre mbar Millibar mg Milligram mg/24H Milligrams per 24 Hours mg/kg Milligrams per Kilogram mg/m³ Milligrams per Cubic Metre Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present. mm Millimetre mmH₂O 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