SAFETY DATA SHEET

MAGNESIUM SULPHATE (EPSOM SALT) | REVISION 3, DATE JUNE 2026

1. IDENTIFICATION

Product Name	Magnesium Sulphate (Epsom Salt)
Other Names	Magnesium Sulfate Heptahydrate; Epsom Salt; Epsomite; Sulfuric Acid, Magnesium Salt (1:1), Heptahydrate; $MgSO_4 \cdot 7H_2O$
Uses	Water-soluble magnesium and sulfur fertiliser. Used for correction and prevention of magnesium deficiency in crops, via soil application, fertigation or foliar spray. Also widely used in horticulture, personal care (bath salts), animal feed and industrial applications.
Product Type	Water-Soluble Fertiliser
Chemical Family	Inorganic magnesium salt (sulfate)
Chemical Formula	$MgSO_4 \cdot 7H_2O$
Chemical Name	Magnesium Sulfate Heptahydrate
Product Description	Epsom Salt – pure magnesium sulphate heptahydrate, water-soluble magnesium and sulfur fertiliser

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Green Pick Australia	6 Fernhill Lane Bayswater North VIC 3153 Australia	+61-426-571-061
Green Pick Iran	50 Khavaran Hwy, Industrial City Ivanaki, Taavoni 7 Tehran, Iran	+98-912-476-3248

Emergency Contact Details

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

Organisation	Location	Telephone
Poisons Information Centre	Australia – Westmead NSW	1800-251525 / 131126
Chemcall	Australia	1800-127406 / +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). Magnesium sulfate is a low-hazard, well-characterised inorganic salt widely used in food, pharmaceutical, personal care and agricultural applications.
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)

Safe Work Australia

National Guide for Classifying Hazardous Chemicals under the Model WHS Regulations

Hazard Classification	NOT hazardous according to the criteria of Safe Work Australia under Model WHS Regulations

Product presents no significant physical, health or environmental hazard when used and stored as directed. As with any fine powder/crystalline material, avoid generating and inhaling dust, and avoid unnecessary eye contact.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Magnesium Sulfate Heptahydrate	$MgSO_4 \cdot 7H_2O$	10034-99-8	> 99.5 %
Moisture / insoluble residues	—	—	Balance

Note: Magnesium sulphate heptahydrate is a single, well-defined inorganic compound (CAS 10034-99-8) of high purity. No component is present above levels requiring individual hazard classification.

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth, then drink plenty of water. Get medical advice/attention if discomfort occurs, or if large quantities have been swallowed (may cause a laxative effect). Never give anything by mouth to an unconscious person.
Inhaled	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.
Eye	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. If eye irritation persists, get medical advice/attention.
Skin	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs, get medical advice/attention.
Most Important Symptoms and Effects	Not expected to present a significant hazard under normal conditions of use. May cause mild, transient mechanical irritation to eyes, skin and respiratory tract due to dust. Ingestion of large quantities may cause a laxative/osmotic effect (diarrhoea).
Advice to Doctor	Treat symptomatically.
Medical Conditions Aggravated by Exposure	No information available. Individuals with impaired kidney function should avoid excessive ingestion of magnesium salts.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool containers with water spray. This product is non-combustible; fire fighting should focus on the surrounding materials.
Flammability Conditions	Not flammable. Will not burn.
Extinguishing Media	Use extinguishing media appropriate to the surrounding fire (water spray, dry chemical, carbon dioxide (CO2) or foam).
Fire and Explosion Hazard	Not classified as explosive or oxidising. Not considered a combustible dust hazard.
Hazardous Products of Combustion	At high temperature, decomposition may release sulfur oxides (SOx). Loses water of crystallisation on heating well below decomposition temperature.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water – runoff may cause pollution.
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA) for significant fires involving other materials. Structural firefighters' protective clothing will only provide limited protection.
Flash Point	Not applicable (solid, non-combustible)
Lower Explosion Limit	Not applicable
Upper Explosion Limit	Not applicable
Auto Ignition Temperature	Not applicable
Hazchem Code	None allocated

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6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation, especially in confined areas. Avoid generating dust. Avoid breathing dust and contact with eyes.
Personal Precautionary Measures	Do not attempt to take action without suitable protective equipment (see SECTION 8).
Environmental Precautionary Measures	Avoid release to the environment in large quantities. Prevent the product from entering drains or waterways.
Containment	Prevent dust cloud. Prevent entry into waterways, sewers, basements or confined areas.
Clean Up Procedures	Sweep up and shovel into suitable containers for disposal or re-use (see SECTION 13). Avoid dust formation. Product may be recovered and re-used if not contaminated.
Decontamination	Flush remainder with water.
Evacuation Criteria	Not normally required for this product. Isolate large spills and keep unauthorised personnel away.

7. HANDLING AND STORAGE

Handling	Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Minimise dust generation and accumulation. Avoid breathing dust and unnecessary 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, out of direct sunlight. Keep container tightly closed. Containers which are opened should be properly resealed and kept upright to prevent leakage. Protect from excessive heat, which may cause the product to lose water of crystallisation and cake.
Container	Keep in the original container.
Incompatible Materials	Strong oxidising agents. No other significant incompatibilities known.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standard is established for magnesium sulfate. General standards for particulates not otherwise classified/nuisance dust may be applied as a guide.
Engineering Measures	A system of local and/or general exhaust ventilation is recommended to keep employee exposure to dust as low as possible, particularly during bagging/transfer operations.
Respiratory Protection	Respiratory protection is not normally required. Where dust levels are elevated and engineering controls are not feasible, wear a particulate respirator (e.g. P1/P2 or N95, refer to AS/NZS 1715 & 1716).
Eye/Face Protection	Wear safety glasses to avoid eye contact where dust is generated.
Hand Protection	General-purpose protective gloves recommended for prolonged or repeated handling.
Skin/Body Protection	Normal work clothing is generally adequate; overalls recommended for bulk handling.
Work Hygienic Practices	Wash hands thoroughly after handling. Take off contaminated clothing and wash it before reuse.
Biological Limits	No information available.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Crystal (powder)
Colour	White
Odour	Odourless
pH (50 g/L solution in water)	5.0 – 8.0
Water Solubility	~100% (fully water-soluble); approximately 710 g/L at 20 °C
$MgSO_4 \cdot 7H_2O$ Content	> 99.5%
Magnesium (Mg)	9.7%
Sulphur (S)	12.9%
Melting Point	Approximately 150 °C (loses water of crystallisation)
Boiling Point	Not applicable (solid; decomposes on strong heating)
Flash Point	Not applicable
Decomposition Temperature	> 1,100 °C (anhydrous salt decomposes, releasing sulfur oxides)
Vapour Pressure	Not applicable
Relative Vapour Density	Not applicable
Density	1.68 g/cm³
Bulk Density	900 – 1,100 kg/m³ (typical, crystalline powder)
Molecular Weight	246.47 g/mol
Particle Size	Fine crystalline powder
Partition Coefficient (n-octanol/water)	Not applicable (inorganic salt, fully dissociates in water)
Evaporation Rate	Not applicable
Viscosity	Not applicable (solid)
Oxidising Properties	Not classified as oxidising
Explosive Properties	Product is not explosive.

10. STABILITY AND REACTIVITY

General Information	No dangerous reactions known under normal conditions of use.
Chemical Stability	Stable under normal conditions of storage and handling.
Conditions to Avoid	Avoid generating dust. Avoid excessive heat, which may cause loss of water of crystallisation and caking.
Materials to Avoid	Strong oxidising agents.
Hazardous Decomposition Products	Under normal conditions of storage and use, hazardous decomposition products should not be produced. At very high temperature, decomposition may release sulfur oxides (SOx).
Hazardous Polymerisation	Will not occur.

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11. TOXICOLOGICAL INFORMATION

General Information	Acute toxicity: Not classified – magnesium sulfate has very low acute toxicity and is used in food, pharmaceutical (e.g. oral laxative, intravenous therapeutic use) and personal care products. Skin corrosion/irritation: Not classified. Eye damage/irritation: Not classified – may cause mild, transient mechanical irritation from dust. Respiratory/skin sensitisation: Not classified. Germ cell mutagenicity: Not classified. Carcinogenicity: Not classified – not listed by IARC, NTP or OSHA as a carcinogen. Reproductive toxicity: Not classified. STOT (single exposure): Not classified. STOT (repeated exposure): Not classified. Aspiration toxicity: Not classified.
Likely Routes of Exposure	Ingestion, inhalation of dust, and eye/skin contact.
Ingestion (Oral)	Acute toxicity: LD50, Rat: approximately 5,000 – 6,000 mg/kg bw (very low acute oral toxicity). Ingestion of large quantities can produce an osmotic laxative effect (this is, in fact, the basis of its historical medicinal use).
Dermal	Not expected to be significantly absorbed through intact skin; not classified for acute dermal toxicity.
Inhalation	Inhalation of dust in high concentration may cause mild irritation of the respiratory system.
Chronic Effects	No adverse chronic effects expected from normal occupational or agricultural handling. Individuals with significantly impaired kidney function should avoid excessive ingestion of magnesium salts.
Carcinogen Category	None

Note: Magnesium sulfate heptahydrate (CAS 10034-99-8) is one of the most well-characterised and widely used inorganic salts, with an extensive safety record across agricultural, food, pharmaceutical and personal care applications.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Not classified as hazardous to the aquatic environment. Magnesium sulfate is considered practically non-toxic to aquatic organisms: published data indicate Acute LC50, Fish: > 1,000 mg/L; Acute EC50, Daphnia: > 1,000 mg/L. Magnesium and sulfate ions are naturally occurring and essential nutrients.
Persistence/Degradability	Not applicable in the conventional biodegradation sense – product is an inorganic salt that fully dissociates in water into naturally occurring ions.
Bioaccumulation Potential	Not expected to bioaccumulate.
Mobility	Highly soluble and mobile in water; this is intended, as the product is applied as a soil/fertigation nutrient source.
Environmental Fate	Not considered to cause long-term adverse effects on the environment when used as directed as an agricultural fertiliser.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	This material and its container can generally be disposed of as general/non-hazardous waste in accordance with local/regional/national regulations. Collect and reclaim waste from residues/unused product(s) where practical.
Contaminated Packaging	Empty containers may be reused after appropriate cleansing, or disposed of via normal waste channels in accordance with local regulations.

14. TRANSPORT INFORMATION

Dangerous Goods Classification	NOT Dangerous Goods. This product is not restricted for transport by land, sea or air under any recognised transport code (ADG Code, ADR, IMDG Code, IATA DGR).
UN Number	Not Assigned
Class / Subsidiary Risk	Not Applicable
Pack Group	Not Applicable
Hazchem Code	Not Applicable
Marine Pollutant	No
Special Precautions	None required for transport. Ensure product is kept dry during transport and storage.
Comments	NON-DANGEROUS GOODS: Not regulated for LAND, SEA or AIR transport under any mode.

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15. REGULATORY INFORMATION

Poisons Schedule (Aust)	Not Scheduled
General Information	Product is manufactured for use as an agricultural fertiliser/plant nutrient. It is also widely recognised as a food additive (E518) and pharmacopoeial-grade material in other applications. Users should confirm local fertiliser registration requirements in the country of sale prior to distribution.

National/Regional Inventories

Inventory	Status
Australia (AICS)	Listed
New Zealand (NZIoC)	Listed
Europe (EINECS)	Listed – EC 231-298-2
USA (TSCA)	Listed
Canada (DSL)	Listed
China (IECSC)	Listed
Japan (ENCS)	Listed
Korea (KECI)	Listed
Iran (National Chemical Inventory)	Not Determined

16. OTHER INFORMATION

>	Greater Than	CAS	Chemical Abstracts Service (Registry Number)
EC	European Community (Number)	EC50	Half Maximal Effective Concentration
GHS	Globally Harmonised System of Classification and Labelling of Chemicals	g/L	Grams per Litre
kg/m³	Kilograms per Cubic Metre	LC50	Lethal Concentration, 50% – the concentration of a material in water/air which causes the death of 50% of a group of test animals
LD50	Lethal Dose, 50% – the amount of a material, given all at once, which causes the death of 50% of a group of test animals	Mg	Magnesium
$MgSO_4 \cdot 7H_2O$	Magnesium Sulfate Heptahydrate	N/A	Not Applicable
S	Sulphur	SOx	Oxides of Sulphur
STOT	Specific Target Organ Toxicity	UN	United Nations

Revision	3
Revision Date	June 2026
Supersedes	Version 2, April 2026

This Safety Data Sheet has been prepared using published literature and regulatory reference data for magnesium sulfate heptahydrate (CAS 10034-99-8), one of the most well-characterised and widely used inorganic salts, together with the specifications provided by Green Pick Australia for this product. To the best of our knowledge the information contained herein is accurate as of the date of issue; it is provided without warranty, expressed or implied. It is the responsibility of the user to determine the suitability of this information for their particular use and to comply with all applicable local, national and international regulations.

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