

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

- 1.1 Product Identifier:** **EPSOM SALTS**
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Fertiliser.
- 1.3 Manufacturer/Distributor:** Vitax Ltd, Owen Street, Coalville, Leicestershire LE67 3DE United Kingdom
Tel: 01530 510060 Fax: 01530 510299 Email: tech@vitax.co.uk
- 1.4 Emergency Contact:** Tel: 01530 510060 (Office Hours)

2. HAZARDS IDENTIFICATION

- 2.1 Classification:** **Classification according to Regulation (EC) No 1272/2008 (EU-GHS/CLP)**
- Physical hazards** Not Classified
- Health hazards** Not Classified
- Environmental hazards** Not Classified
- 2.2 Label Elements:** n/a
- Signal word:** n/a
- Hazard statements:** n/a
- Precautionary Statements** n/a
- 2.3 Other Hazards:** No additional information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance:

Chemical Name	CAS-No./ EINECS-No.	Annex Index or REACH number	Symbol(s) and phrases	Concentration
Magnesium Sulphate monohydrate	7487-88-9 231-298-2	-	-	99-100%

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

- Inhalation** Move person to fresh air. Get medical attention if any discomfort continues.
- Skin contact** Wash off with plenty of water. Get medical attention if irritation develops or persists.
- Eye contact** Do not rub eye. Flush thoroughly with water. If irritation occurs, get medical assistance.
- Ingestion** Rinse mouth thoroughly if dust is ingested. Get medical attention if any discomfort occurs.

4.2. Most important symptoms and effects, both acute and delayed

May cause redness and pain. Abdominal cramps. Diarrhoea. Coughing. Dust may irritate the respiratory tract, skin and eyes. Magnesium sulphate is excreted by the kidneys at a rate that varies from one patient to another but that is directly proportional to the serum conc'n and glomerular filtration. Ingestion: Since magnesium salts are slowly absorbed, abdominal pain, vomiting and diarrhoea may be the only symptoms. However, if elimination is blocked by bowel blockage or other reasons, CNS depression, lack of reflexes, hypocalcaemia (deficiency of calcium in the blood) may occur.

4.3 Indication of immediate medical attention and special treatment needed:

Calcium directly antagonizes neuromuscular and cardiovascular effects of magnesium. Use for patients with symptomatic hypermagnesaemia that is causing cardiac effects or respiratory distress.

5. FIRE FIGHTING MEASURES

- General fire hazards The product is non-combustible.
- 5.1. Extinguishing media**
- Suitable extinguishing media Use fire-extinguishing media appropriate for surrounding materials.
- Unsuitable extinguishing media None known.
- 5.2. Special hazards arising from the substance or mixture**
- During fire, gases hazardous to health may be formed.
- 5.3. Advice for firefighters**
- Special protective equipment for firefighters
- Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus, operated in positive

pressure mode and full protective clothing must be worn in case of fire. Special fire fighting procedures. Move containers from fire area if you can do so without risk.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions:

For non-emergency personnel	Keep unnecessary personnel away.
For emergency responders	Ensure adequate ventilation. Avoid inhalation of dust. Avoid contact with skin and eyes. Use personal protection as recommended in section 8 of the SDS.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water.

6.3. Methods and material for containment and cleaning up

Collect spill using a vacuum cleaner with a HEPA filter. Flush area with plenty of water.

6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

7. HANDLING & STORAGE

7.1 Precautions for Safe Handling:

Avoid generation and spreading of dust. Avoid inhalation of dust and contact with skin and eyes. Use with adequate ventilation. Observe good industrial hygiene practices..

7.2 Conditions for Safe Storage:

Keep in air-tight containers- material is hygroscopic. Store in a cool, dry, well-ventilated place. Store away from incompatible materials.

7.3. Specific end use(s)

Fertiliser.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1 Control parameters:

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Recommended monitoring procedures	Not available.

Derived no-effect level (DNEL)

Components	Type	Route	Value	Form
Magnesium sulphate (CAS 7487-88-9)	General Population	Dermal	12.8 mg/kg/day	Long-term – systemic effects
		Inhalation	11.1 mg/m ³	Long-term – systemic effects
	Workers	Oral	12.8 mg/kg/day	Long-term – systemic effects
		Dermal	21.3 mg/kg/day	Long-term – systemic effects
		Inhalation	37.6 mg/m ³	Long-term – systemic effects

Predicted no effect concentrations (PNECs)

Components	Type	Route	Value	Form
Magnesium sulphate (CAS 7487-88-9)	Aqua (freshwater)	Water	0.68 mg/l	
	Aqua (intermittent releases)	Water	6.8 mg/l	
	Aqua (marine water)	Water	0.068 mg/l	
	Sewage Treatment Plant	Not applicable	10 mg/l	

8.2 Exposure Controls:

Appropriate engineering controls	Provide adequate ventilation. The risk of inhalation of dust must be minimised as much as possible.
Individual protection measures, such as personal protective equipment	
General information	Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Eye/face protection Risk of contact: Wear dust goggles.
Skin protection	
- Hand protection	Risk of contact: Wear protective gloves. Rubber gloves are recommended. Suitable gloves can be recommended by the glove supplier.
- Other	No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.
Respiratory protection	In case of inadequate ventilation use suitable respirator. Use respiratory equipment with particle filter, type P2.
Thermal hazards	Not available.
Hygiene measures	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Environmental exposure controls

Environmental manager must be informed of all major spillages..

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance	Transparent crystals, or white powder.
Physical state	Solid.
Form	Crystalline. / Powder.
Colour	Transparent. White.
Odour	Odourless.
Odour threshold	Not available.
pH	5.4 - 7 (5% solution)
Melting point/freezing point	1124 °C Decomposes. Loses all waters of hydration @ 250C / 1067 °C
Initial boiling point and boiling range	Not applicable.
Flash point	Not applicable.
Evaporation rate	No information found.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	No information found.
Vapour density	No information found.
Relative density	Not available.
Solubility(ies)	Very soluble.
Partition coefficient (n-octanol/water)	Not available.
Decomposition temperature	Not available.
Viscosity	Not applicable.
Explosive properties	Not available.
Oxidizing properties	Not available.

9.2. Other information

Density	1.67 g/ml (4°C)
Molecular formula	MgSO ₄
Molecular weight	120.4
VOC (Weight %)	0 % v/v (21°C)

10. STABILITY & REACTIVITY

10.1 Reactivity	The product is stable and non reactive under normal conditions of use, storage and transport.
10.2 Chemical stability	Stable at normal conditions.
10.3 Possibility of hazardous reactions	Hazardous polymerisation does not occur.
10.4 Conditions to avoid	Avoid dust formation. The substance is hygroscopic and will absorb water by contact with the moisture in the air.
10.5 Incompatible materials	Strong oxidising agents.
10.6 Hazardous decomposition products	Sulphur oxides. Magnesium oxides.

11. TOXICOLOGICAL INFORMATION

General information	Occupational exposure to the substance or mixture may cause adverse effects.
Information on likely routes of exposure	
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Inhalation	Dust may irritate throat and respiratory system and cause coughing.
Skin contact	May cause irritation through mechanical abrasion.
Eye contact	May cause irritation through mechanical abrasion.
Symptoms	May cause redness and pain. Abdominal cramps. Diarrhoea. Coughing.
11.1. Information on toxicological effects	
Acute toxicity	Dust may irritate the respiratory tract, skin and eyes. Ingestion: Since magnesium salts are slowly absorbed, abdominal pain, vomiting and diarrhoea may be the only symptoms. However, if elimination is blocked by bowel blockage or other reasons, CNS depression, lack of reflexes, hypocalcaemia (deficiency of calcium in the blood) may occur.

Skin corrosion/irritation	May cause irritation through mechanical abrasion.
Serious eye damage/irritation	Product dust or powder may cause mechanical eye irritation.
Respiratory sensitisation	Not classified.
Skin sensitisation	Not classified.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classified.
Reproductive toxicity	Not classified.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not classified.
Other information	Magnesium sulphate is excreted by the kidneys at a rate that varies from one patient to another but that is directly proportional to the serum conc'n and glomerular filtration..

12. ECOLOGICAL INFORMATION

12.1. Toxicity	The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Crustacea EC50 Tubificid worm (<i>Tubifex tubifex</i>)	149.6 - 191.36 mg/l, 48 hours
Fish LC50 Fathead minnow (<i>Pimephales promelas</i>)	2610 - 3080 mg/l, 96 hours
12.2. Persistence and degradability	No data available.
12.3. Bioaccumulative potential	No data available.
Partition coefficient n-octanol/water (log Kow)	Not available.
Bioconcentration factor (BCF)	Not available.
12.4. Mobility in soil	Not available.
12.5. Results of PBT and vPvB assessment	Not a PBT or vPvB substance or mixture.
12.6. Other adverse effects	Not available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:	
Residual waste	Dispose of in accordance with local regulations.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. EU waste code 06 13 99
Disposal methods/information	Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

14.1 UN number:	Product is unclassified for transport
14.2 UN proper shipping name:	Product is unclassified for transport
14.3 Transport hazard:	Product is unclassified for transport
14.4 Packing group:	Product is unclassified for transport
14.5 Environmental hazards:	Product is unclassified for transport.
14.6 Special precautions for user:	Not specified
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	Applicable for Maritime bulk transport only. Check with carrier.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific to this substance:	Not classified as dangerous for supply. This substance is classified and labelled according to Directive EC 1272/2008 Classification, Labelling and Packaging and the EC Fertiliser Regulations 2003, Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.
15.2 Chemical Safety Assessment	not undertaken for this substance

16. OTHER INFORMATION

Reason for revision:

Replaces version dated June 2009. Updated CLP format all sections updated.

List of abbreviations

DNEL: Derived No-Effect Level.

PNEC: Predicted No-Effect Concentration.

CLP: Regulation No. 1272/2008.

DSD: Directive 67/548/EEC.

PBT: Persistent, bioaccumulative and toxic.

vPvB: Very Persistent and very Bioaccumulative. References ECHA CHEM

SDS information:

The product label provides information on the use of the product: do not use otherwise, unless you have assessed any potential hazard involved and the safety measures required. Prepared by VITAX LTD, for Health and Safety purposes from the best knowledge available at the time of printing.