

Epsom Salt pure, technical
Magnesium Sulphate Heptahydrate ($\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$)



Batch Number 4416902
Best Before Date December 2023

Parameter	Method of Analysis	Result	Specification
Magnesium Sulphate	calculated	49.4 %	48.0 .. 50.0 %
Sodium	ICP - AES	0.005 %	<= 0.012 %
Potassium	ICP - AES	0.049 %	0.010 .. 0.300 %
Calcium	ICP - AES	0.001 %	<= 0.010 %
Chloride	volumetry	0.009 %	0.001 .. 0.020 %
Loss on ignition (450°C)	gravimetry	50.5 %	50.0 .. 52.0 %
Water-insoluble matters	gravimetry	0.001 %	<= 0.010 %
Iron *)	DIN EN ISO 17294-2 (MgSO_4)	corresponds	<= 1 mg/kg
Heavy Metals as Lead *)	Ph. Eur. 2.4.8 Meth. A (MgSO_4)	corresponds	<= 5 mg/kg

*) not tested on each batch

This certificate does not relieve the purchaser from examining the product upon delivery and gives no assurance of suitability of the product for any particular purpose.

Production process of Epsom salt

Crude salt from mine, mainly containing

- Kieserite ($\text{MgSO}_4 \cdot \text{H}_2\text{O}$)
- Potash (KCl)
- Rock salt (NaCl)

Beneficiation process

Potash

Rock salt

**Kieserite
dissolving, crystallization**

Drying

Epsom salt ($\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$)



GMO Statement

PRODUCT NAME: Epsom Salts

MADAR Corporation Limited can confirm that the above listed product is GMO Free.

02/03/2020

Revised on 10.6.2015 v2

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name	EPSOM SALT
REACH reg no	01-2119486789-11-XXXX
CAS-No	7487-88-9
EC No	231-298-2

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Industrial, professional and consumer uses. Fertilisers. Laboratory chemicals. "Leather tanning, dye, finishing, impregnation and care products". Textile dyes. Adhesives. Sealant. Paper treatment. Some grades of substance are available for feed/food use; Feed material. (# 11.2.2)
Uses advised against	None Known.

1.3. Details of the supplier of the safety data sheet

Company	MADAR Corporation Limited 19-20 Sandleheath Industrial Estate Fordingbridge SP6 1PA United Kingdom
Tel	(0044) 1425 655555
Email	sales@madarcorporation.co.uk
Approved Sellers	Cosmetic Butters, Mystic Moments, New Directions, World of Moulds
Emergency Telephone	999 emergency services (UK only) 112 emergency services (Europe only)

Section 2: Hazards Identification

2.1. Classification of the substance or mixture

<u>Classification</u>	
Physical Hazards	Not classified.
Health Hazards	Not classified.
Environmental Hazards	Not classified.

2.2. Label elements

EC No.	231-298-2
Hazard statements	NC Not classified

2.3. Other hazards

The substance is not classified as PBT or vPvB according to current EU criteria.

Section 3: Composition/information on ingredients

3.1 Substances

Product name	EPSOM SALTS/ MAGNESIUM SULPHATE HEPTAHYDRATE
REACH reg no	01-2119486789-11-XXXX
CAS No.	7487-88-9
EC No.	231-298-2
Composition comments	Purity > 99%

Section 4: First Aid Measures

4.1. Description of first aid measures

Inhalation	Move affected person to fresh air at once. Rinse nose and mouth with water. Get medical attention if any discomfort continues.
Ingestion	Rinse mouth thoroughly with water. Get medical attention if any discomfort continues. Do not induce vomiting.
Skin contact	Remove affected person from source of contamination. Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if any discomfort continues.
Eye contact	Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

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

Inhalation	Coughing.
Ingestion	Stomach pain. Diarrhoea. Nausea, vomiting.
Eye contact	Redness.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	No specific recommendations. If in doubt, get medical attention promptly.
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Section 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media The product is not flammable. Water.

Unsuitable extinguishing media Carbon dioxide (CO₂). Halon.

5.2. Special hazards arising from the substance or mixture

Specific hazards Irritating gases or vapours. Sulphurous gases (SO_x).

5.3. Advice for firefighters

Special protective equipment
For firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

Section 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid inhalation of dust. Provide adequate ventilation.

6.2. Environmental precautions

Environmental precautions Do not discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Avoid generation and spreading of dust. Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Flush contaminated area with plenty of water.

6.4. Reference to other sections

Reference to other sections Collect and dispose of spillage as indicated in section 13.

Section 7: Handling and Storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling. Avoid skin and eye contact. Avoid handling which leads to dust formation. Provide adequate ventilation.

7.2. Conditions for safe storage, including any incompatibilities

Usage precautions Store in tightly closed original container in a dry, cool and well-ventilated place. Keep only in the original container.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are in section 1.2.

Section 8: Exposure controls / personal protection

8.1. Control parameters

Ingredient Comments No exposure limits known for ingredient(s).

8.2. Exposure controls

Protective equipment



Appropriate Engineering controls

Provide adequate ventilation. Avoid inhalation of dust. Observe any occupational exposure limits for the product or ingredients.

Personal protection

Wear appropriate clothing to prevent reasonably probable skin contact.

Eye/face protection

Wear tight-fitting, dust-resistant, chemical splash goggles if airborne dust is generated. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection

Chemical resistant gloves require for prolonged or repeated contact. To protect hands from chemicals, gloves should comply with European Standard EN374.

Hygiene measures

Do not smoke in work area. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. When using do not eat drink or smoke.

Respiratory protection

No specific recommendations. If ventilation is inadequate, suitable respiratory protection must be worn. Wear a suitable dust mask. Disposable filtering half mask respirators should comply with European Standard EN149 or EN405.



Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Powder.
Colour	White.
Odour	Odourless.
pH	pH (diluted solution): 8 @ 25°C
Melting point	1130°C
Initial boiling point and range	Not applicable. The sample decomposes before boiling point.
Other flammability	This product is not flammable.
Relative density	1.67 @ 20°C
Solubility(ies)	342 g/l water @ 20°C Soluble in water. Soluble in the following materials: Alcohols.
Explosive properties	No considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Other information	Not available.
Molecular weight	120.4

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
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10.2. Chemical Stability

Stability	Stable under the prescribed storage conditions.
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10.3. Possibility of hazardous reactions

Hazardous Polymerisation	
Will not polymerise.	

10.4. Conditions to avoid

Conditions to avoid	Avoid excessive heat for prolonged periods of time. Water, moisture.
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10.5. Incompatible materials

Materials to avoid	None known.
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10.6. Hazardous decomposition products

Hazardous decomposition products

When heated, vapours/gases hazardous to health may be formed. Sulphurous gases (SO_x)

Section 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity – oral

Notes (oral LD₅₀)

REACH dossier information. LD₅₀ > 2000 mg/kg, Oral, Rat Based on available data the classification criteria are not met.

Acute toxicity – dermal

Notes (dermal LD₅₀)

REACH dossier information. LD₅₀ > 2000 mg/kg, Dermal, Rat Read-across approach: Potassium sulphate. Based on available data the classification criteria are not met.

Acute toxicity – inhalation

Notes (inhalation LC₅₀)

Data lacking.

Skin corrosion/Irritation

Animal data

REACH dossier information. Not irritating. Read-across approach: Potassium sulphate. Based on available data the classification criteria are not met.

Serious eye damage/irritation

REACH dossier information. Not irritating. Read-across approach: Potassium sulphate. Based on available data the classification criteria are not met.

Skin sensitisation

REACH dossier information. Local Lymph Node Assay (LLNA) – Mouse: Not sensitising. Based on available data the classification criteria are not met.

Germ cell mutagenicity

REACH dossier information. Gene mutation: Negative. Based on available data the classification criteria are not met.

Carcinogenicity

Data lacking.

Reproductive toxicity

Reproductive toxicity – fertility

REACH dossier information. No evidence of reproductive toxicity in animal studies. Read-across approach: Potassium sulphate. Based on available data the classification criteria are not met.

Specific target organ toxicity – repeated exposure.

STOT – repeated exposure

REACH dossier information. Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Not relevant.

Inhalation

Dust in high concentrations may irritate the respiratory system.



Ingestion	No specific health hazards known.
Skin contact	Powder may irritate skin.
Eye contact	Particles in the eyes may cause irritation and smarting.

Section 12: Ecological information

Ecotoxicity	Not regarded as dangerous for the environment.
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12.1. Toxicity

Acute toxicity – fish	REACH dossier information LC ₅₀ , 96 hour: 680 mg/l, Pimephales promelas (fat-head Minnow) Read-across approach: Potassium sulphate. Based on available data the classification criteria are not met.
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Acute toxicity – aquatic Invertebrates	REACH dossier information. EC ₅₀ , 48 hours; 720 mg/l, Daphnia magna Read-across approach: Potassium sulphate. Based on available data the classification criteria are not met.
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Acute toxicity – aquatic plants	REACH dossier information. EC ₅₀ , 18 day: 2700 mg/l, Chlorella vulgaris Read-across approach: Based on available data the classification criteria are not met.
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12.2. Persistence and degradability

Persistence and Degradability	No Information required.
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12.3. Bioaccumulative potential

Bioaccumulative potential	Bioaccumulation of this product is not expected to occur.
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12.4. Mobility in soil

Adsorption desorption coefficient	Substance in inorganic.
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12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	The substance is not classified as PBT or vPvB by current EU criteria.
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12.6. Other adverse effects

Other adverse effects	None known.
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Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods

Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Section 14: Transport information

General

The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not Applicable.

14.4. Packing group

Not Applicable.

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant

No.

14.6. Special precautions for user

Not Applicable.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not Applicable.

Section 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Legislation

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) (as amended).

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Guidance

Workplace Exposure Limits EH40.

15.2. Chemical Safety Assessment

No Chemical safety assessment has been carried out.



Section 16: Other Information

General information

The following information is provided to conform with article 13 of the EC Directive on Packaging and Packaging Waste 94/62/EC:

- Wherever possible we use the returnable packaging and pallets. Details of these are on our Sales Contracts.
- For any non-returnable packaging the cost of disposal is at your expense, but we do not have a list of reprocessors available.
- In most cases, but not all, we are able to supply products in returnable packaging but the additional cost of this will be for the customer's expense. Please ask for details with your specific requirements.
- Any products supplied in the returnable packaging is clearly marked to this effect.

Key literature references and Sources for data

European Chemicals Agency, <http://echa.europa.eu/> - REACH disseminated dossier.
International Chemical Safety Card, www.inchem.org.

Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date

4.6.2015

Revision

2

CAS No: 10034-99-8
 EINECS No: 231-298-2

Chemical Analysis:

Levels

Magnesium Sulphate (MgSO ₄)	49.0% typical
Water (H ₂ O)	51.0% typical
Sodium (Na)	100 mg/kg typical
Potassium (K)	400 mg/kg typical
Calcium (Ca)	100 mg/kg typical
Chloride (Cl)	200 mg/kg typical
H ₂ O Insolubles	20 mg/kg typical
Iron (Fe)	1 mg/kg typical
Heavy metals (as Pb)	<5 mg/kg typical

Granulometry:-

<1.0 mm	65.0% typical
d ₅₀ [mm]	0.80 typical

Physical Properties:

Bulk density	ca. 980 kg/m ³
Angle of repose	ca. 32
Molecular weight	246.47 g/mol
Density	1.7 g/cm ³



Vegetarian & Vegan Suitability Statement

PRODUCT NAME: Epsom Salt

MADAR Corporation Limited can confirm that the above listed product has not been tested in animals and does not contain dairy or any other animal product, by product or derivative and is therefore suitable for vegetarian and vegan use.

28/06/19