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

1.1 Product identifier Magnesium sulphate - heptahydrate - FCC grade MAGNESIUM SULFATE HEPTAHYDRATE ; CAS No. : 10034-99-8 ; EC No. : 231-298-2

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

Food additive.

1.3 Details of the supplier of the safety data sheet Supplier (manufacturer/importer/only representative/downstream user/distributor)

Hexeal Chemicals Ltd, Norwich Road, Great Plumstead, Norwich, Norfolk NR13 5FW

Telephone : Information contact : 1.4 Emergency telephone number 01603 720202 sales@hexchem.co.uk 01603 720202

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture Classification according to Regulation (EC) No. 1272/2008 [CLP] None

- 2.2 Label elements
- 2.3 Other hazards

None under normal conditions. This product does not contain substance of very high concern (SVHC).

SECTION 3: Composition / information on ingredients

3.1 Substances

Substance name : MAGNESIUM SULFATE HEPTAHYDRATE

EC No.: 231-298-2

CAS No.: 10034-99-8

Purity : ≥ 99 % [mass]

SECTION 4: First aid measures

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4.1 Description of first aid measures

General information

When in doubt or if symptoms are observed, get medical advice.

Following inhalation

Remove victim out of the danger area.

In case of skin contact

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

After eye contact

Continue to rinse eye with clean water for 10 - 15 min minutes, retracting eyelids often. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention if irritation develops.

After ingestion

Rinse mouth thoroughly with water. Give water to drink.

4.2 Most important symptoms and effects, both acute and delayed After ingestion:

Diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

Give supportive therapy. Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

This product is not flammable.

Use extinguishing media appropriate for surrounding fire.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products Thermal decomposition generates: Sulfur oxides.

5.3 Advice for firefighters

Special protective equipment for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures Wear personal protection equipment. (see chapter 8). Do not breathe dust. Avoid dust production.

6.2 Environmental precautions

Do not allow to enter into surface water or drains.

6.3 Methods and material for containment and cleaning up

For cleaning up

Take up mechanically, placing in appropriate containers for disposal.

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Dispose in a safe manner in accordance with local/national regulations.

6.4 Reference to other sections

See protective measures under point 8 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid dust production. Avoid contact with skin and eyes. Avoid ingestion and inhalation.

7.2 Conditions for safe storage, including any incompatibilities Store in dry, cool, well-ventilated area. Hints on joint storage

Storage class : 13

7.3 Specific end use(s)

None

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

None

8.2 Exposure controls

Personal protection equipment

Eye/face protection

Safety glasses

Skin protection

Hand protection

Wear suitable gloves resistant to chemical penetration. Long-term exposure: Breakthrough time: 480 min Thickness of the material: 0,7 mm Short-term exposure: Breakthrough time: 30 min Thickness of the material: 0,4 mm Material: NR (natural rubber, natural latex)

Body protection

Wear suitable protective clothing and chemical resistant boots.

Respiratory protection

Approved dust respirator.

General health and safety measures

When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

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Safety relevant basis data

| Physical state : | | | solid | |
|-------------------------------|-----------|-----|-----------------|-------|
| Appearance : | | | crystalline | |
| Colour : | | | white | |
| Odour : | | | Faint odour. | |
| Melting point/melting range : | | | 770 | °C |
| Flash point : | | | not applicable | |
| рН : | | ca. | 8 | |
| Flammability: | | | Not flammable. | |
| Oxidising properties: | | | Not applicable. | |
| Explosive properties : | | | Not applicable. | |
| Density : | (20 °C) | | 1700 | kg/m³ |
| Bulk density : | | ca. | 980 | kg/m³ |
| Solubility in water: | | | 342 | g/L |
| | | | | |

Magnesium sulphate -

9.2 Other information

None

SECTION 10: Stability and reactivity

10.1 Reactivity

No information available.

- **10.2 Chemical stability** Stable under recommended storage and handling conditions.
- **10.3 Possibility of hazardous reactions**
 - No information available.
- **10.4 Conditions to avoid** No information available.
- **10.5 Incompatible materials** No information available.
- **10.6 Hazardous decomposition products** Thermal decomposition generates: Sulfur oxides.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute effects

Method :

Acute oral toxicity Parameter : Exposure route : Species : Effective dose :

LD50 Oral Rat > 2000 mg/kg OECD 425

By analogy. Acute dermal toxicity

Parameter : Exposure route : Species : Effective dose :

LD50 Dermal Rat > 2000 mg/kg

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| Method : | OECD 402 |
|--|---|
| By analogy. | |
| Acute inhalation toxicity | |
| Parameter : | LC50 |
| Exposure route : | Inhalation |
| Test result : | No information available. |
| Irritant and corrosive effe | ects |
| Primary irritation to the skin | |
| Parameter : | Skin corrosion/irritation |
| Result : | Not irritant. |
| By analogy. | |
| Irritation to eyes | |
| Parameter : | Serious eye damage/irritation |
| Species : | Rabbit |
| Result : | Not irritant. |
| Method : | OECD 405 |
| By analogy. | |
| Sensitisation | |
| In case of skin contact | |
| Parameter : | Respiratory or skin sensitisation |
| Species : | Mouse |
| Result : | Not sensitizing. |
| Method : | OECD Test Guideline no. 429 |
| By analogy. | |
| | |
| , ,, | sity mutagenicity and toxicity for reproduction) |
| CMR effects (carcinogenic | city, mutagenicity and toxicity for reproduction) |
| CMR effects (carcinogenic Carcinogenicity | |
| CMR effects (carcinogenic Carcinogenicity Parameter : | Carcinogenicity |
| CMR effects (carcinogenic Carcinogenicity Parameter : Test result : | |
| CMR effects (carcinogenic Carcinogenicity Parameter : Test result : Germ cell mutagenicity | Carcinogenicity |
| CMR effects (carcinogenic Carcinogenicity Parameter : Test result : Germ cell mutagenicity In vitro mutagenicity | Carcinogenicity No information available. |
| CMR effects (carcinogenic Carcinogenicity Parameter : Test result : Germ cell mutagenicity In vitro mutagenicity Parameter : | Carcinogenicity No information available. Germ cell mutagenicity |
| CMR effects (carcinogenic Carcinogenicity Parameter : Test result : Germ cell mutagenicity In vitro mutagenicity Parameter : Test result : | Carcinogenicity No information available. Germ cell mutagenicity Negative. |
| CMR effects (carcinogenic Carcinogenicity Parameter : Test result : Germ cell mutagenicity In vitro mutagenicity Parameter : Test result : Method : | Carcinogenicity No information available. Germ cell mutagenicity |
| CMR effects (carcinogenic Carcinogenicity Parameter : Test result : Germ cell mutagenicity In vitro mutagenicity Parameter : Test result : Method : By analogy. | Carcinogenicity No information available. Germ cell mutagenicity Negative. |
| CMR effects (carcinogenic Carcinogenicity Parameter : Test result : Germ cell mutagenicity In vitro mutagenicity Parameter : Test result : Method : By analogy. In vivo mutagenicity | Carcinogenicity No information available. Germ cell mutagenicity Negative. |
| CMR effects (carcinogenic Carcinogenicity Parameter : Test result : Germ cell mutagenicity In vitro mutagenicity Parameter : Test result : Method : By analogy. In vivo mutagenicity No information available. | Carcinogenicity No information available. Germ cell mutagenicity Negative. |
| CMR effects (carcinogenic Carcinogenicity Parameter : Test result : Germ cell mutagenicity In vitro mutagenicity Parameter : Test result : Method : By analogy. In vivo mutagenicity No information available. Reproductive toxicity | Carcinogenicity No information available. Germ cell mutagenicity Negative. OECD 476 |
| CMR effects (carcinogenic Carcinogenicity Parameter : Test result : Germ cell mutagenicity In vitro mutagenicity Parameter : Test result : Method : By analogy. In vivo mutagenicity No information available. Reproductive toxicity Adverse effects on sexual func | Carcinogenicity No information available. Germ cell mutagenicity Negative. OECD 476 ction and fertility |
| CMR effects (carcinogenic Carcinogenicity Parameter : Test result : Germ cell mutagenicity In vitro mutagenicity Parameter : Test result : Method : By analogy. In vivo mutagenicity No information available. Reproductive toxicity Adverse effects on sexual func- Parameter : | Carcinogenicity No information available. Germ cell mutagenicity Negative. OECD 476 ction and fertility Reproductive toxicity |
| CMR effects (carcinogenic Carcinogenicity Parameter : Test result : Germ cell mutagenicity In vitro mutagenicity Parameter : Test result : Method : By analogy. In vivo mutagenicity No information available. Reproductive toxicity Adverse effects on sexual func Parameter : Exposure route : | Carcinogenicity No information available. Germ cell mutagenicity Negative. OECD 476 ction and fertility Reproductive toxicity NOAEL(C) |
| CMR effects (carcinogenic Carcinogenicity Parameter : Test result : Germ cell mutagenicity In vitro mutagenicity Parameter : Test result : Method : By analogy. In vivo mutagenicity No information available. Reproductive toxicity Adverse effects on sexual func Parameter : Exposure route : Species : | Carcinogenicity No information available. Germ cell mutagenicity Negative. OECD 476 ction and fertility Reproductive toxicity NOAEL(C) Rat |
| CMR effects (carcinogenic Carcinogenicity Parameter : Test result : Germ cell mutagenicity In vitro mutagenicity Parameter : Test result : Method : By analogy. In vivo mutagenicity No information available. Reproductive toxicity Adverse effects on sexual fund Parameter : Exposure route : Species : Effective dose : | Carcinogenicity No information available. Germ cell mutagenicity Negative. OECD 476 ction and fertility Reproductive toxicity NOAEL(C) Rat >= 1500 mg/kg |
| CMR effects (carcinogenic Carcinogenicity Parameter : Test result : Germ cell mutagenicity In vitro mutagenicity Parameter : Test result : Method : By analogy. In vivo mutagenicity No information available. Reproductive toxicity Adverse effects on sexual fund Parameter : Exposure route : Species : Effective dose : Method : | Carcinogenicity No information available. Germ cell mutagenicity Negative. OECD 476 ction and fertility Reproductive toxicity NOAEL(C) Rat |
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| CMR effects (carcinogenic Carcinogenicity Parameter : Test result : Germ cell mutagenicity In vitro mutagenicity Parameter : Test result : Method : By analogy. In vivo mutagenicity No information available. Reproductive toxicity Adverse effects on sexual fund Parameter : Exposure route : Species : Effective dose : Method : By analogy. STOT-single exposure No information available. | Carcinogenicity No information available. Germ cell mutagenicity Negative. OECD 476 ction and fertility Reproductive toxicity NOAEL(C) Rat >= 1500 mg/kg |
| CMR effects (carcinogenic Carcinogenicity Parameter : Test result : Germ cell mutagenicity In vitro mutagenicity Parameter : Test result : Method : By analogy. In vivo mutagenicity No information available. Reproductive toxicity Adverse effects on sexual fund Parameter : Exposure route : Species : Effective dose : Method : By analogy. STOT-single exposure No information available. | Carcinogenicity No information available. Germ cell mutagenicity Negative. OECD 476 ction and fertility Reproductive toxicity NOAEL(C) Rat >= 1500 mg/kg |
| CMR effects (carcinogenic Carcinogenicity Parameter : Test result : Germ cell mutagenicity In vitro mutagenicity Parameter : Test result : Method : By analogy. In vivo mutagenicity No information available. Reproductive toxicity Adverse effects on sexual fund Parameter : Exposure route : Species : Effective dose : Method : By analogy. STOT-single exposure | Carcinogenicity No information available. Germ cell mutagenicity Negative. OECD 476 ction and fertility Reproductive toxicity NOAEL(C) Rat >= 1500 mg/kg |

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Species : Effective dose : Method : By analogy. Rat >= 256 mg/kg OECD 453

Aspiration hazard

No information available.

SECTION 12: Ecological information

12.1 Toxicity

| Aquatic toxicity | | | | |
|--|---|--|--|--|
| Acute (short-term) fish toxicit | ty | | | |
| Parameter : | LC50 | | | |
| Species : | Pimephales promelas (fathead minnow) | | | |
| Effective dose : | 680 mg/l | | | |
| Exposure time : | 96 h | | | |
| By analogy. | | | | |
| Acute (short-term) daphnia to | oxicity | | | |
| Parameter : | EC50 | | | |
| Effective dose : | 720 mg/l | | | |
| Exposure time : | 48 h | | | |
| By analogy. | | | | |
| Acute (short-term) algae toxi | city | | | |
| Parameter : | EC50 | | | |
| Species : | Chlorella vulgaris | | | |
| Effective dose : | 2700 mg/l | | | |
| Exposure time : | 18 d | | | |
| By analogy. | | | | |
| Bacteria toxicity | | | | |
| Parameter : | EC50 | | | |
| Species : | Photobacterium phosphoreum | | | |
| Effective dose : | 84 mg/l | | | |
| Exposure time : | 0.5 h | | | |
| 12.2 Persistence and degradab | ility | | | |
| Biodegradation | | | | |
| Analytical method : | Biodegradation | | | |
| Evaluation : | Not applicable to inorganic substances. | | | |
| 12.3 Bioaccumulative potential | | | | |
| not applicable | | | | |
| 12.4 Mobility in soil | | | | |
| No information available. | • | | | |
| | | | | |
| 12.5 Results of PBT and vPvB a | | | | |
| | PBT/vPvB criteria of REACH, annex XIII. | | | |
| 12.6 Other adverse effects | | | | |
| No information available. | | | | |
| 12.7 Additional ecotoxicological information | | | | |
| None | | | | |
| | | | | |
| | | | | |

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

14.1 UN number

No dangerous goods in sense of this transport regulation.

14.2 UN proper shipping name

No dangerous goods in sense of this transport regulation.

14.3 Transport hazard class(es)

No dangerous goods in sense of this transport regulation.

14.4 Packing group

No dangerous goods in sense of this transport regulation.

14.5 Environmental hazards

No dangerous goods in sense of this transport regulation.

14.6 Special precautions for user

None

SECTION 15: Regulatory information

 $^{\rm 15.1}$ Safety, health and environmental regulations/legislation specific for the substance or mixture

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Ensure all national/local regulations are observed. **National regulations** Water hazard class (WGK) Class: 1 (Slightly hazardous to water) Classification according to VwVwS

Other regulations, restrictions and prohibition regulations

15.2 Chemical Safety Assessment

For this substance a chemical safety assessment is not required.

SECTION 16: Other information

16.1 Indication of changes

02. Classification of the substance or mixture · 02. Label elements

16.2 Abbreviations and acronyms

a.i. = Active ingredient

ACGIH = American Conference of Governmental Industrial Hygienists (US)

- ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road
- AFFF = Aqueous Film Forming Foam
- AISE = International Association for Soaps, Detergents and Maintenance Products (joint project of AISE and CEFIC) AOAC = AOAC International (formerly Association of Official Analytical Chemists)

aq. = Aqueous

ASTM = American Society of Testing and Materials (US)

atm = Atmosphere(s)

B.V. = Beperkt Vennootschap (Limited)

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BCF = Bioconcentration Factor bp = Boiling point at stated pressure bw = Body weight ca = (Circa) about CAS No = Chemical Abstracts Service Number (see ACS - American Chemical Society) CEFIC = European Chemical Industry Council (established 1972) CIPAC = Collaborative International Pesticides Analytical Council CLP = REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Conc = Concentration cP = CentiPoise cSt = Centistokes d = Day(s)DIN = Deutsches Institut für Normung e.V. DNEL = Derived No-Effect Level DT50 = Time for 50% loss; half-life EbC50 = Median effective concentration (biomass, e.g. of algae) EC = European Community; European Commission EC50 = Median effective concentration EINECS = European Inventory of Existing Commercial Chemical Substances (EU, outdated, now replaced by EC Number) ELINCS = European List of Notified (New) Chemicals (see Tab 7, Background - Guide) ErC50 = Median effective concentration (growth rate, e.g. of algae) EU = European Union EWC = European Waste Catalogue FAO = Food and Agriculture Organization (United Nations) GIFAP = Groupement International des Associations Nationales de Fabricants de Produits Agrochimiques (now CropLife International) h = Hour(s)hPa = HectoPascal (unit of pressure) IARC = International Agency for Research on Cancer IATA = International Air Transport Association IC50 = Concentration that produces 50% inhibition IMDG Code = International Maritime Dangerous Goods Code IMO = International Maritime Organization ISO = International Organization for Standardization IUCLID = International Uniform Chemical Information Database IUPAC = International Union of Pure and Applied Chemistry kg = Kilogram Kow = Distribution coefficient between n-octanol and water kPa = KiloPascal (unit of pressure) LC50 = Concentration required to kill 50% of test organisms LD50 = Dose required to kill 50% of test organisms LEL = Lower Explosive Limit/Lower Explosion Limit LOAEL = Lowest observed adverse effect level mg = Milligram min = Minute(s)ml = Milliliter mmHg = Pressure equivalent to 1 mm of mercury (133.3 Pa)mp = Melting point MRL = Maximum Residue Limit MSDS = Material Safety Data Sheet n.o.s. = Not Otherwise Specified NIOSH = National Institute for Occupational Safety and Health (US) NOAEL = No Observed Adverse Effect Level NOEC = No observed effect concentration NOEL = No Observable Effect Level NOx = Oxides of Nitrogen

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OECD = Organization for Economic Cooperation and Development OEL = Occupational Exposure Limits Pa = Pascal (unit of pressure)PBT = Persistent, Bioaccumulative or Toxic pH = -log10 hydrogen ion concentration pKa = -log10 acid dissociation constant PNEC = Previsible Non Effect Concentration POPs = Persistent Organic Pollutants ppb = Parts per billion PPE = Personal Protection Equipment ppm = Parts per million ppt = Parts per trillion PVC = Polyvinyl Chloride QSAR = Quantitative Structure-Activity Relationship REACH = Registration, Evaluation and Authorization of CHemicals (EU, see NCP) SI = International System of Units STEL = Short-Term Exposure Limit tech. = Technical grade TSCA = Toxic Substances Control Act (US) TWA = Time-Weighted Average vPvB = Very Persistent and Very Bioacccumulative WHO = World Health Organization = OMS y = Year(s)

16.3 Key literature references and sources for data

None

- 16.4 Relevant R-, H- and EUH-phrases (Number and full text) None
- 16.5 Training advice
 - None
- 16.6 Additional information

None

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.