SAFETY DATA SHEET
MAGNESIUM SULPHATE HEPTAHYDRATE

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

1.1. Product identifier

Trade name	:	MAGNESIUM SULPHATE HEPTAHYDRATE
Substance name	:	Magnesium sulfate heptahydrate
CAS-No.	:	10034-99-8
EC-No.	:	231-298-2
REACH Status	:	Substance is exempted from registration obligations according to Article 2 (7) (b) (Annex V) of the Regulation (EC) No 1907/2006

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

Use of the Substance/Mixture	:	industrial use
Uses advised against	:	At this moment we have not identified any uses advised against

1.3. Details of the supplier of the safety data sheet

Vet Way Ltd
Airfield Business Park
Elvington, York, YO41 4EA
+44 (0) 1904 607 600
info@vet-way.com
www.vet-way.com

1.4. Emergency telephone number

Emergency telephone number	:	+44 (0) 1904 607 600

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

The product is not classified as dangerous according to Regulation (EC) No. 1272/2008.

Most important adverse effects

Human Health	:	According to our experience and to the information provided to

us, the product does not have any harmful effects if it is used and handled as specified.

Physical and chemical hazards	:	Stable under normal conditions.
Potential environmental effects	:	The product is not classified as dangerous for the environment.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is not labeled as dangerous according to Regulation (EC) No. 1272/2008.

Additional Labelling:

Handle in accordance with good industrial hygiene and safety practice.

2.3. Other hazards

For Results of PBT and vPvB assessment see section 12.5.
The product does not need to be labelled in accordance with EC directives or respective national laws.

SECTION 3: Composition/information on ingredients

3.1. Substances

Remarks : No dangerous ingredients according to Regulation (EC) No. 1907/2006

Non-hazardous component

Chemical name	Identification Number	Amount [%]
Magnesium sulfate heptahydrate	CAS-No. : 10034-99-8 EC-No. 231-298-2	>= 99 - <= 100

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	: Take off all contaminated clothing immediately.
If inhaled	: Remove to fresh air. If symptoms persist, call a physician.
In case of skin contact	: Wash off with plenty of water. If symptoms persist, call a physician.

In case of eye contact	: If easy to do, remove contact lens, if worn. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
If swallowed	: Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

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

Symptoms	: See Section 11 for more detailed information on health effects and symptoms.
Effects	: See Section 11 for more detailed information on health effects and symptoms.

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

Treatment	: Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	High volume water jet

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting	:	In case of fire hazardous decomposition products may be produced such as: Sulphur oxides, metal oxide/oxides

5.3. Advice for firefighters

Special protective equipment for firefighters	:	Use personal protective equipment.In the event of fire and/or explosion do not breathe fumes.
Further advice	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	: Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin and eyes.

6.2. Environmental precautions

Environmental precautions	: Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

6.3. Methods and materials for containment and cleaning up

Methods and materials for containment and cleaning up	:	Use mechanical handling equipment. Keep in suitable, closed containers for disposal.
Further information	:	Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on personal protective equipment.
See Section 13 for waste treatment information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling	:	Handle in accordance with good industrial hygiene and safety practice. Avoid dust formation. Avoid contact with the skin and the eyes. Provide for good ventilation. Avoid dusting. Use mechanical ventilation at dusting.
Hygiene measures	:	Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off all contaminated clothing immediately.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Store in original container.
Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Further information on storage conditions	:	Keep container tightly closed. Keep in a dry place. Store in cool place.
Advice on common storage	:	Keep away from food, drink and animal feedingstuffs.

7.3. Specific end use(s)

Specific use(s)	:	No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Other Occupational Exposure Limit Values

(Additional) Information	:	Contains no substances with occupational exposure limit values.

8.2. Exposure controls

Appropriate engineering controls

Refer to protective measures listed in sections 7 and 8.

Provide appropriate exhaust ventilation at places where dust is formed.

Personal protective equipment

Respiratory protection

Advice	:	Required, if exposure limit is exceeded (e.g. OEL). Respiratory protection complying with EN 143.
Filter Type	:	P2 filter

Hand protection

Advice	:	Protective gloves complying with EN 374. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Protective gloves should be replaced at first signs of wear.
Material	:	Nitrile rubber

Eye protection

Advice	:	Tightly fitting safety goggles Equipment should conform to EN 166

Skin and body protection

Advice	:	Protective work clothing

Environmental exposure controls

General advice	:	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form	:	crystalline
Colour	:	white

Odour	:	odourless
Odour Threshold	:	Not applicable
pH	:	8 - 11 (as aqueous solution)
Freezing point	:	no data available
Boiling point/boiling range	:	Not applicable
Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	no data available
Upper explosion limit	:	Not applicable
Lower explosion limit	:	Not applicable
Vapour pressure	:	no data available
Relative vapour density	:	no data available
Density	:	1.7 g/cm3
Water solubility	:	342 g/l (20 °C; 1013 hPa) soluble
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	Not applicable
Thermal decomposition	:	Not applicable
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available
Explosivity	:	Product is not explosive.
Oxidizing properties	:	not oxidising

9.2. Other information

Bulk density	:	980 kg/m3

SECTION 10: Stability and reactivity

10.1. Reactivity

Advice : Stable under recommended storage conditions.

10.2. Chemical stability

Advice	:	Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions	:	No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Conditions to avoid	:	Heat, flames and sparks.
Thermal decomposition	:	Not applicable

10.5. Incompatible materials

Materials to avoid	:	Strong oxidizing agents

10.6. Hazardous decomposition products

Hazardous decomposition products	:	In case of fire hazardous decomposition products may be produced such as: Sulphur oxides

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Data for the product		
CMR effects		
CMR Properties		
Carcinogenicity	:	Contains no ingredient listed as a carcinogen
Mutagenicity	:	Contains no ingredient listed as a mutagen
Teratogenicity	:	It is not considered teratogenic.
Reproductive toxicity	:	Contains no ingredient listed as toxic to reproduction
Further information		
Other relevant toxicity information	:	Did not show teratogenic effects in animal experiments.

Component:	**Magnesium sulfate heptahydrate**	**CAS-No. 10034-99-8**
Acute toxicity		
Oral		
‖	> 2000 mg/kg (Rat, male and female) (OECD Test Guideline 425)Read-across (Analogy), Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.	
Inhalation		
‖	no data available	

Dermal		
LD50	:	> 2000 mg/kg (Rat, male and female) (OECD Test Guideline 402)Read-across (Analogy)

Specific Target Organ Toxicity		
Single exposure		
Remarks	:	no data available
Repeated exposure		
Remarks	:	no data available
Other toxic properties		
Aspiration hazard		
		Not applicable,

SECTION 12: Ecological information

12.1. Toxicity

Data for the product		
Acute toxicity		
Fish		
LC50	:	680 mg/l (Pimephales promelas (fathead minnow); 96 h) (Toxicity to fish)
Toxicity to daphnia and other aquatic invertebrates		
LC50	:	720 mg/l (48 h) (Toxicity to daphnia)

12.2. Persistence and degradability

Component:	Magnesium sulfate heptahydrate	CAS-No. 10034-99-8
Persistence and degradability		
Persistence		
Result	:	no data available
Biodegradability		

Result	:	The methods for determining the biological degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Component:	Magnesium sulfate heptahydrate	CAS-No. 10034-99-8
	Bioaccumulation	

Result	:	BCF: 87;

12.4. Mobility in soil

Component:	Magnesium sulfate heptahydrate	CAS-No. 10034-99-8
	Mobility	

Water	:	The product is water soluble.
Air	:	not volatile

12.5. Results of PBT and vPvB assessment

Data for the product		
	Results of PBT and vPvB assessment	

Result	:	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6. Other adverse effects

Data for the product		
	Additional ecological information	

Result	:	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product	:	Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services.
Contaminated packaging	:	Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. If recycling is not practicable, dispose of in compliance with local regulations.

European Waste Catalogue Number	:	No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

SECTION 14: Transport information

Not dangerous goods for ADR, RID, IMDG and IATA.

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packaging group

Not applicable.

14.5. Environmental hazards

Not applicable.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IMDG : Not applicable.

SECTION 15: Regulatory information

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

Component:	Magnesium sulfate heptahydrate	CAS-No. 10034-99-8

EU. Regulation EU No. 649/2012 concerning the export and import of dangerous chemicals	:	; The substance/mixture does not fall under this legislation.

EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC) : ; The substance/mixture does not fall under this legislation.

EU. Directive 2012/18/EU (SEVESO III) Annex I : ; The substance/mixture does not fall under this legislation.

Notification status
Magnesium sulfate heptahydrate:

Regulatory List	Notification	Notification number
AICS	YES	
DSL	YES	
INV (CN)	YES	
ENCS (JP)	YES	(1)-467
ISHL (JP)	YES	(1)-467
IECSC	YES	

15.2. Chemical safety assessment

no data available

SECTION 16: Other information

Abbreviations and Acronyms

BCF	bioconcentration factor
BOD	biochemical oxygen demand
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	carcinogenic, mutagenic or toxic to reproduction
COD	chemical oxygen demand
DNEL	derived no-effect level
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
LC50	median lethal concentration
LOAEC	lowest observed adverse effect concentration
LOAEL	lowest observed adverse effect level

LOEL	lowest observed effect level
NLP	no-longer polymer
NOAEC	no observed adverse effect concentration
NOAEL	no observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
OECD	Organisation for Economic Cooperation and Development
OEL	occupational exposure limit
PBT	persistent, bioaccumulative and toxic
REACH Auth. No.:	REACH Authorisation Number
REACH AuthAppC. No.	REACH Authorisation Application Consultation Number
PNEC	predicted no-effect concentration
STOT	specific target organ toxicity
SVHC	substance of very high concern
UVCB	substance of unknown or variable composition, complex reaction products or biological materials
vPvB	very persistent and very bioaccumulative

Further information

Key literature references and sources for data	:	Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet.
Methods used for product classification	:	The classification for human health, physical and chemical hazards and environmental hazards were derived from a combination of calculation methods and if available test data.
Hints for trainings	:	The workers have to be trained regularly on the safe handling of the products based on the information provided in the Safety Data Sheet and the local conditions of the workplace. National regulations for the training of workers in the handling of hazardous materials must be adhered to.
Other information	:	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use.

|| Indicates updated section.