Safety Data Sheet

In accordance with Regulation (EU) 2020/878

Revision date: 12.06.2023 version 3

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING	
Product name	25 mM $MgCl_2$
Catalog number	05-11-00001, 05-11-00005, 05-11-00025, 05-11-00050, 05-11-00200
REACH registration number	01-2119485597-19-XXXX
CAS number	7791-18-6
ECHA registration number (EC-No)	232-094-6
Unique formula identifire (UFI) code	Not applicable
Molecular Formula	$MgCl_2 \cdot 6H_2O$
Recommended use of the chemical and uses advised against	Laboratory Chemicals. Not for consumer use.
Manufacturer/Supplier	Solis BioDyne OÜ Teaduspargi 9, 50411 Tartu, Estonia info@solisbiodyne.com Tel. +372 740 9960, Fax. +372 740 2079
Information in case of emergency	Solis BioDyne Tel. +372 740 9960 EU Emergency Service Tel 112 Estonian Poison Center +372 794 3794

2. HAZARDS IDENTIFICATION	
Classificaton of the substance or mixture	Classification according to Regulation (EC) No 1272/2008
Physical hazards	Not hazardous
Health hazards	Not hazardous
Environmental hazards	Not hazardous
Explosion hazards	Not hazardous
Additional hazards	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. Rapidly absorbed through skin.The mixture does not contain any nanoforms.
Label elements	Labelling according to Regulation (EC) No 1272/2008 [CLP]
Pictograms	None
Signal word	None
Hazard statements	Not applicable
EU Specific Hazard Statements	Not applicable
Precautionary Statements	
Prevention	Avoid breathing vapours, mist or gas. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.
Response	Not applicable
Storage	Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Store under inert gas. Hygroscopic. Storage until the end of shelf-life (Expiry Date marking on the package). Keep/store only in original/labeled container. Transport conditions in section 14
Disposal	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wetbrushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

Other Hazards	No endocrine disruptors information is available

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances
Hazardous/Non-hazardous Components:
Synonyms: $MgCl_2 \cdot 6H_2O$, Magnesium chloride hexahydrate
Formula: $MgCl_2 \cdot 6H_2O$
Molecular weight: 203.3 g/mol
CAS-No.: 7791-18-6
EC-No.: 232-094-6

3.2 Mixtures
Hazardous/Non-hazardous Components:

The product contains no substances which at their given concentration, are considered to be hazardous to health.
We recommend handling all chemicals with caution.
There are no additional ingredients (incl nanoforms) present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment.

4. FIRST-AID MEASURES

Skin contact	Take off immediately all contaminated clothing. Wash off with soap and plenty of water. Consult a physician.
Eye contact	Flush eyes with water as a precaution. Remove contact lenses.
Inhalation	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
Ingestion	Make victim drink water (two glasses at most). Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Most important symptoms and effects, both acute and delayed	The most important known symptoms and effects are described in section 11
Indication of any immediate medical attention and special treatment needed	None
Notes to physician	Treat symptomatically

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Dry chemical, CO_2, water spary or alcohol resistant foam.
Unsuitable extinguishing media	No information available
Special hazards arising from the substance or mixture	Hydrogen chloride gas, Magnesium oxide. Not combustible. Fire may cause evolution of: Hydrogen chloride gas. Ambient fire may liberate hazardous vapours.
Protective equipment and precautions for fire-fighters	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid breathing vapours, mist or gas. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.
Personal protective equipment	Use personal protection recommended in Section 8.
Environmental precautions	Do not allow to enter surface/ sewers or ground water. Prevent further leakage or spillage if safe to do so. See section 12 for additional information.
Methods and material for containment and cleaning up	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wetbrushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE	
Precautions for safe handling	Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge.
Conditions for safe storage, including any incompatibilities	Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Store under inert gas. Hygroscopic. Transport conditions in section 14
Specific uses	Apart from the uses mentioned in section 1 no other specific uses are stipulated.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION	
Exposure Limits	Contains no substances with occupational exposure limit values.
Engineering measures	Showers. Eyewash stations. Ensure adequate ventilation.
Personal protective equipment:	
Respiratory protection	Required when dusts are generated. Use in well ventilated areas. Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls.
Skin and body protection	Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Eye and face protection	Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Protection of hands	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it. Splash contact Material: Nitrile rubber. Minimum layer thickness: 0,11 mm Break through time: 480 min. Material tested:KCL 741 Dermatril® L (KCL 743 / Aldrich Z677388, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Environmental exposure controls	Prevent product from entering drains. Do not allow material to contaminate ground water system

9. PHYSICAL AND CHEMICAL PROPERTIES	
Physical state	Liquid, clear
Colour	Colorless
Odour	Sulphurous
pH value	Not applicable
Melting/freezing point	116.7 °C
Boiling point/ boiling range	No data available
Flammability	The product is not flammable.
Lower and upper explosion limit	No data available
Flash point	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Kinematic viscosity	No data available
Solubility in other solvents	No data available
Partition coefficient n-octanol/water	No data available

Vapor pressure	No data available
Vapour density	1,570 g/cm3 at 20 °C
Density and/or relative density	No data available
Water solubility	468,7 g/l at 20 °C - OECD Test Guideline 105
Partition coefficient	Not applicable for inorganic substances
Relative vapour density	No data available
Viscosity	No data available
Oxidizing properties	The substance or mixture is not classified as oxidizing.
Explosive properties	Not explosive
Particle characteristics	No data available
Information with regard to physical hazard classes	Not hazardous
Surface tension	No data available

10. STABILITY AND REACTIVITY

Reactivity	No data available
Chemical stability	Stable under recommended storage conditions
Possibility of hazardous reactions	No data available
Conditions to avoid	No data available
Incompatible materials	No data available
Hazardous decomposition products	Other decomposition products - No data available In the event of fire: see section 5.

11. TOXICOLOGICAL INFORMATION

Acute toxicity			
Chemical Name	**Oral LD50**	**Dermal LD50**	**Inhalation LC50**
Magnesium chloride hexahydrate 7791-18-6	> 5.0 mg/kg (Rat)	> 2.0 mg/kg (Rat)	Negative (Guinea pig)
Skin corrosion/irritation	No skin irritation		
Serious eye damage/irritation	No eye irritation		
Sensitization:			
Respiratory	No data available		
Skin	No data available		
Germ cell mutagenicity	Negative		
Carcinogenicity	Negative		
Reproductive toxicity	No data available		
STOT-single exposure	No data available		
STOT-repeated exposure	Rat - male and female - Oral - 54 d - NOAEL (No observed adverse effect level) - > 1.000 mg/kg. Remarks: Subacute toxicity		
Aspiration hazard	No data available		
Endocrine disrupting properties	No data available		
Information on other hazards	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.		

12. ECOLOGICAL INFORMATION

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 21119 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) – 548,4 mg/l - 48 h.
Toxicity to algae	EC50 - Desmodesmus subspicatus (green algae) - > 100 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	EC50 - activated sludge - > 900 mg/l - 3 h (OECD Test Guideline 209)
Mobility in soil	No data available
Persistence and degradability	No data available
Biodegradability	No data available
Bioaccumulative potential	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Ecotoxicity	No data available
Endocrine disrupting properties	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Othe adverse effects	Discharge into the environment must be avoided.

13. DISPOSAL CONSIDERATIONS

Waste handling and disposal	The generation of waste should be avoided or minimized wherever possible. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.
Information regarding the disposal of the packaging	Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique
Physical/chemical properties that may affect waste treatment options shall be specified	No special
Sewage disposal	Do not empty into drains. Do not dispose of waste into sewer
Special precautions for any recommended waste treatment	Consider local regulations and safe disposal procedures

14. TRANSPORT INFORMATION

UN number:	
UN proper shipping name	Not applicable
Transport hazard class (es):	
Packing group	Not applicable
Environmental hazards	Not hazardous goods
Special precautions for user	Handle in accordance with good industrial hygiene and safety practice
Land transport ADR/RID (cross-border):	
ADR/RID class	Not regulated
Air transport ICAO-TI and IATA-DGR:	
ICAO/IATA class	Not regulated
Additional information	This substance is considered to be non-hazardous for transport
Transport conditions	Transport at ambient temperature
Maritime transport in bulk according to IMO instruments	Not regulated

15. REGULATORY INFORMATION

	Safety, health and environmental regulations/legislation specific for the substance or mixture	None

Safety, health and environmetal regulations/legislation specific for the product	Substances of Very High Concern. EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances for Eventual Inclusion in Annex XIV	None
	Substance subject to authorisation per REACH Annex XIV	None
	Restricted substances under EC 1907/2006, Annex XVII	None
	Regulation (EC) No 649/2012 (Rotterdam Convention - export/import of dangerous chemicals)	None
	Regulation(EU)No2019/1021 (Stockholm Convention persistent organic pollutants)	None
	EU - Substances Depleting the Ozone layer (1005/2009)	None
	German Water hazard classes (Wassergefährdungsklassen)	None
Chemical safety assessment	No Chemical safety assessment has been carried out	

16. OTHER INFORMATION

Prepared by	Solis BioDyne / Technology specialist
Reason for revision	Revised according (EU) 2020/878 amending Annex II to Regulation (EC) No 1907/2006 (REACH)
Revision number	3
Revision date	12.06.2023
SDS is valid 3 years from revision date. Contact info@solisbiodyne.com for latest revision.	
Last changes	Added UFI, endocrine disruptors and nanforms information and formal changes in all sections except 4, 5, 6 and 10.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006 and (EU) 2020/878 amending Annex II to Regulation (EC) No 1907/2006

IMPORTANT: The information in this SDS is provided in good faith based on our knowledge as of the issue date (or subsequent revision date, if any), and is to be used only as a guide. This SDS does not constitute a guarantee (express or implied) of any kind and we make no warranties or merchantability or fitness for a particular purpose. This information relates only to the designated product as shipped and may not be valid if the product is used in combination with any other materials or is not used in accordance with our instructions. It is the responsibility of the buyer/user to ensure that its activities comply with all applicable governmental requirements. Since conditions of use of the product are not under the control of Solis BioDyne it is the duty of the buyer/user to determine the necessary conditions for the safe use of the product. Solis BioDyne will not be liable for any damages resulting from handling or contact with the product.

Abbreviations:
ADR/RID – Road Transport of Dangerous Material/International Carriage of Dangerous Goods by Rail.
AGW – Time-weighted Average Concentration
EC – European Commission
CLP – Classification, Labelling and Packaging
IATA-DGR – International Air Transport Association-Dangerous Goods Regulations
ICAO-TI – International Civil Aviation Organization-Technical Instructions
IMO – International Maritime Organization
LD – Lethal Dose
NBP – N-Butyl-2-pyrrolidone
OEL – Occupational Exposure Limits
PBT – Persistent Bioaccumulative Toxic
PEL – Permissible Exposure Limits
STEL – Short Term Exposure Limit
STOT – Specific target organ toxicity
TLV – Threshold Limit Value
TWA – Time-Weighted Average