SAFETY DATA SHEET

◘ **V6** in accordance with Regulation (EC) 1907/2006 (REACH) amended with Commission Regulation (EU) 2015/830 ◘

◘ **V6 –** *amendments in this revision* ◘

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY	
1.1 **Product identifier**	
Trade name:	Magnesium Nitrate solution
1.2 **Relevant identified uses of the substance or mixture and uses advised against**	
Uses:	Stabilizer laboratory chemical Intermediate Fertilizer **Note:** see section 16 for the complete list of uses
Uses advised against:	No information available
1.3 **Details of the supplier of the safety data sheet**	
Manufacturer: Address: Tel.;fax: URL website: Email:	NEOCHIM PLC East Industrial Zone, Himkombinatska Str. 6403 Dimitrovgrad, Bulgaria +359 391 65 205; +359 391 60 555 http:/ / www.neochim.bg neochim@neochim.bg
Company e-mail for SDS	pto@neochim.bg
1.4 **Emergency telephone number**	
National Toxicology Center - Pirogov NEOCHIM PLC (the information is available in Bulgarian, English and Turkish)	+ 359 2 915 44 09 24/24 h 7/7 d +359 2 809 20 30 24/24 h 7/7 d
2. HAZARDS IDENTIFICATION	
2.1 **Classification of the substance**	
◘ **V6** Classification of the substance or mixture according to Regulation (EC) 1272/2008 and its amendments at the date of the issue of the document◘	
The product is not classified as hazardous	
2.2 Label elements	
◘ **V6** Labelling according to Regulation 1272/2008 (CLP) and its amendments at the date of the issue of the document◘	

Precautionary statement(s):	P264 P280 P305+P351+P338 P337+P313	Wash hands thoroughly after handling Wear protective gloves/protective clothing/eye protection/face IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: get medical advice/attention.

2.3 **Other hazards**

PBT/vPvB criteria:	According to Annex XIII of Regulation (EC) No 1907/2006, no PBT and vPvB assessment has been conducted since magnesium nitrate is inorganic.
Other hazards:	None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 **Substances -** not applicable

◘ V6 3.2 Mixture

CAS №	EO №	REACH registration №	Content, (%) w/w	IUPAC name	Classification according to Regulation (EC) No 1272/2008 (CLP)
10377-60-3	233-826-7	01-2119491164-38-0001	≥28 - ≤36	magnesium dinitrate hexahydrate	- ◘

4. FIRST-AID MEASURES

4.1 **Description of first aid measures**

Eye contact:	Immediately wash eyes with plenty of running water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Remove contact lenses, if present and easy to do. Seek medical advice if irritation develops and persists.
Skin contact:	Wash affected skin area with plenty of water and soap for at least 15 minutes thoroughly while removing contaminated clothing and shoes. Seek medical advice if irritation develops and persists.
Ingestion:	**Do not induce vomiting** Wash out mouth with plenty of water. Give victim plenty of water to drink. Never give anything by mouth to an unconscious person.
Inhalation:	Remove the victim to fresh air immediately if adverse effects (e.g. dizziness, drowsiness or respiratory irritation) occur. If breathing is difficult, give oxygen. If not breathing, give artificial respiration or mouth-to-mouth respiration without direct contact (eg. through gauze or cloth)

4.2 **Most important symptoms and effects**

Acute effects	Eye irritation
Delayed effects	Not known

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

Notes for the doctor: Treat symptomatically

5. FIRE-FIGHTING MEASURES

5.1 **Extinguishing media**

Suitable:	Use water or extinguishing agent suitable for the surrounding fire.

Not suitable:	No unsuitable extinguishing media known

5.2 **Special hazards arising from the substance or mixture**

Decomposition products maybe occur during the fire like nitrogen and magnesium oxides. Keep containers cooled by spraying with large amounts of water from a safe distance. Prevent leakage of water from fire extinguishing enter into environment.

5.3 **Advice for firefighters**

In the event of fire, fire-fighters should wear self-contained breathing apparatus (SCBA) with a full face-piece and a chemical protective suit.

6. ACCIDENTAL RELEASE MEASURES

6.1 **Personal precautions, protective equipment and emergency procedures**

Avoid contact with eyes, skin, and vapour inhalation. Use suitable protective equipment. Keep unnecessary personnel away. Stop leaking if safety to do.

6.2 **Environmental precautions**

Prevent contact with soil, prevent entering surface water or sanitary sewer system. Do not discharge directly to a water source. If accidental spillage or washings enter drains or watercourses contact local authority.

6.3 **Methods and material for containment and cleaning up**

Collect into suitable labelled containers for recovery or disposal. Wash contaminated area with plenty of water. Dispose of via a licensed disposal contractor.

6.4 **Reference to other sections**

See section 8 for personal protective equipment and section 13 for waste disposal

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

7.1.1 Protective measures:	Avoid contact with eyes, skin and clothing. Avoid breathing dust, vapour, mist or gas. Keep away from sources of ignition.
Advice on general occupation hygiene:	Do not to eat, drink and smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities

Keep in the original container. Keep container tightly closed in a cool, dry, well-ventilated place. Keep product away from heat, sparks, flame and other sources of ignition, out of direct sunlight and away from combustible materials.

7.3 Specific end use(s)	For information of specific risk management measures: see annex of this safety data sheet (exposure scenarios)

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Regulated occupational exposure limit values:	None

(DNEL) Derived No-Effect Level				
workers				
Route of exposure	Acute effect, local	Acute effects, systemic	Chronic effects, local	Chronic effects, systemic
Inhalation	No hazard identified	No hazard identified	Hazard unknown (no further information necessary)	Hazard unknown (no further information necessary)
Dermal	No hazard identified	No hazard identified	No hazard identified	No hazard identified
Eyes - No hazard (no threshold derived)				
Oral - No need				
general population				
Route of exposure	Acute effect, local	Acute effects, systemic	Chronic effects, local	Chronic effects, systemic
Inhalation	No hazard identified	No hazard identified	Hazard unknown (no further information necessary)	Hazard unknown (no further information necessary)
Dermal	No hazard identified	No hazard identified	No hazard identified	No hazard identified
Eyes - No hazard (no threshold derived)				
Oral - No need				

(PNEC) Predicted No Effect Concentration	
Freshwater	no exposure assessment is required
Sediments (freshwater)	no exposure assessment is required
Marine water	no exposure assessment is required
Sediments (marine water)	no exposure assessment is required
Sewage treatment plant	18 mg/L, Assessment factor: 10
Soil	no exposure assessment is required
Air	no exposure assessment is required

8.2 Exposure controls	
Appropriate engineering controls:	Usage of adequate ventilation to keep airborne concentrations low is a good industrial practice in addition with an eyewash facility and a safety shower.
Environmental exposure controls:	Dispose of rinse water in accordance with local and national regulations.
Individual protection measures, such as personal protective equipment	
Respiratory protection:	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Apply NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are

	exceeded or if irritation or other symptoms are experienced.
Hand protection:	Wear appropriate protective gloves to prevent skin exposure.
Eye protection:	Wear chemical goggles.
Skin and body protection:	Protective suit, apron and boots
Hygiene measures:	Wash hands, forearms and face thoroughly after handling with chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing.

9. PHYSICAL AND CHEMICAL PROPERTIES

***9.1* Information on basic physical and chemical properties**

Appearance:	Colorless liquid
Odour:	Odourless
Melting/Freezing temperature:	-5ºC
pH	<2
Boiling temperature:	No boiling point, decomposes.
Flash-point:	Not relevant as the substance is an inorganic solid.
Flammability:	Non flammable
Explosive properties:	Not explosive
Oxidizing properties:	Not oxidising (EC A17, UN O.1); Magnesium nitrate anhydrous is considered as an oxidizer
Density :	1.25-1.35 at 20 ºC
Solubility in water:	Soluble at any proportion
Partition coefficient n-octanol/water:	Not relevant as the substance is inorganic, but considered to be low (based on high water solubility)
Viscosity:	Not applicable to solids
Specific conductivity:	No data
Auto ignition temperature:	Will not auto-ignite between room temperature and melting temperature (based on molecular structure)
Surface tension:	Not surface active (based on molecular structure)

10. STABILITY AND REACTIVITY

10.1 Reactivity

The product is stable under recommended storage and handling conditions (see section 7, handling and storage).

10.2 Chemical stability

Stable under recommended storage and handling conditions (see section 7, handling and storage). Anhydrous form is not stable, hygroscopic, and absorbs moisture or water from the air immediately.

10.3 Possibility of hazardous reactions

The product reacts vigorously with combustible and reducing agents .

10.4 Conditions to avoid

Incompatible materials, heating to decomposition

10.5 Incompatible materials	
Strong oxidizing agents, strong acids. Do not mix solution of magnesium nitrate with dimethylformamide.	
10.6 Hazardous decomposition products	
nitrogen oxides, oxides of magnesium.	
11. TOXICOLOGICAL INFORMATION	
***11.1* Information on toxicological effects**	
ACUTE TOXICITY	
Acute oral toxicity:	LD_{50}: > 2000 mg/kg bw (OECD 423)
Acute dermal toxicity:	LD_{50}: > 5000 mg/kg bw (OECD 402, with potassium nitrate)
Acute inhalation toxicity:	No data. Low vapour pressure and high particle size.
LOCAL EFFECTS	
Skin irritation:	Not irritating (OECD 404, with ammonium nitrate)
Eye irritation:	Irritating (OECD 405, with sodium nitrate)
Skin sensitization:	Not sensitizing (OECD 429)
OTHER	
Sub-acute toxicity:	Oral 28-day NOAEL ≥ 1500 mg/kg bw/day (OECD 422, with potassium nitrate)
Mutagenicity:	Negative (OECD 471) Negative (OECD 473, with sodium nitrate) Negative (OECD 476, with potassium nitrate)
Reproductive toxicity:	Oral 28-day NOAEL ≥ 1500 mg/kg bw/day (OECD 422, with potassium nitrate)
Carcinogenicity:	No data
12. ECOLOGICAL INFORMATION	
12.1 Toxicity	
Fish (short-term):	96-h LC_{50}: 1378 mg/l (OECD 203, with potassium nitrate)
Fish (long-term):	NOEC (30d) - 268 mg/l
Daphnia magna (short-term):	48-h EC_{50}: 490 mg/l (no guideline followed, with potassium nitrate)
Daphnia magna (long-term):	No data
Algae:	10-d EC_{50}: >1700 mg/l (seawater, no guideline followed, performed with potassium nitrate)
Inhibition of microbial activity:	3-h EC_{50}: >1000 mg/l; NOEC 180 mg/l (OECD 209, with sodium nitrate)
12.2 Persistence and degradability	
Biodegradation:	Standard test is not applicable as the substance is inorganic. In addition, biodegradation of nitrate can occur under anaerobic conditions, both under natural conditions and as a controlled process in many wastewater treatment plants, resulting in degradation products like nitrite, oxide of nitrogen, nitrogen, or ammonia. Nitrate degradation is fastest in anaerobic conditions. In the anaerobic

	transformation of nitrate into N2, N2O and NH3, the biodegradation rate in wastewater plant at 20ºC is 70 g N/kg dissolved solid/day.
Hydrolysis:	No hydrolysable group is present, will completely dissociate into ions.
12.3 Bioaccumulative potential	
Octanol-water partition coefficient (K_{ow}):	Not relevant as the substance is inorganic, but considered low (based on water solubility)
Bioconcentration factor (BCF):	Low potential for bioaccumulation (based on substance properties).
12.4 Mobility in soil	
Adsorption coefficient:	Low potential for adsorption (based on substance properties).
12.5 Results of PBT and vPvB assessment According to Annex XIII of Regulation (EC) No 1907/2006, no PBT and vPvB assessment has been conducted since magnesium nitrate is inorganic.	
13. DISPOSAL CONSIDERATIONS	
Methods of disposal	Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Completely empty containers should be deliver to license companies for disposal
14. TRANSPORT INFORMATION	
Not classified as dangerous goods according to international transport legislation (ADR, RID, IMDG). Transport in clean containers, observing storage conditions. Do not transport together with food and incompatible materials. If spillage of roadway, limit spillage, absorb with inert material (eg. Sand) and wash spill area with plenty of water.	
15. REGULATORY INFORMATION	
15.1 Safety, health and environmental regulation/legislation specific for the substance or mixture:	◘ **V6** Regulation EC 1907/2006 (REACH), Regulation EC 1272/2008 (CLP) ◘ * Regulations / legislation and amendments to the date of issue of the document are indicated
15.2 Chemical safety assessment:	In accordance with REACH Article 14, a Chemical Safety Assessment has been carried out for this substance.

16. OTHER INFORMATION

Indication of changes: Changes since the last version are highlighted with ◘ **V6...◘** . This version replaces all previous versions.

Uses:

1. Manufacturing of the substance including storage, handling and q control
2. Sampling, loading, filling, transfer, dumping, bagging of substance (charging/discharching) at non-dedicated facilities. Industrial setting
3. Sampling, loading, filling, transfer, dumping, bagging of substance (charging/discharching) at dedicated facilities. Industrial setting.
4. Transfer of substance into small containers (dedicated filling line, including weighing). Industrial setting.
5. Q control
6. Use of magnesium nitrate for formulation of preparations for biocidal products, fertilizers, processing aids, laboratory chemicals and plant protection
7. Industrial use as intermediate to synthesize other substances and use of reactive processing aid in fertilizer manufacturing
8. Industrial use as water treatment chemical
9. Industrial end use as catalyst

List of abbreviations

PBT – persistent, bioaccumulative and toxic
vPvB - very persistent and very bioaccumulative
NOAEL - no observed adverse effect level
NOAEC - no observed adverse effect concentration
DNEL - derived no-effect level
PNEC - predicted no-effect concentration
PEC - predicted environmental concentration
LOEC - lowest observed effect concentration
NOEC - no observed effect concentration
OECD - Organisation for Economic Cooperation and Development
LCX - lethal concentration
ECX - effective concentration
LDX - lethal dose

The information above is on the basis of our knowledge about the product and represents the data currently available to us t the moment of safety data sheet issue. This document is intended as guidance for the appropriate precautionary handling with the product by a properly trained person using this product, and does not legally bind in no way manufacturer with guarantee for specific properties, qualities and applications.
Neochim PLC does not grant, guarantee or implies any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers.
Neochim PLC does not carry any liability for damages resulting from the product use or reliance upon this information, data and recommendations for it.
Users are responsible to make their own investigations to determine the suitability of the information and the product for their particular purposes, and to comply with applicable laws.