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SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier :

Substance name : MgSO₄, 1 M, Molecular Biology Grade

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

Recommended restrictions on use : For professional users only.

1.3 Details of the supplier of the safety data sheet

Manufacturer / Supplier : ROJETechnologies

Street address / P.O. Box : ROJE street, 69th alley, Foroudgah blvd, Sanaat square, 8917357485,
Yazd, Iran

Country ID / Postcode / Place : Iran

Telephone number : +98 35 3723 7122

TeleFax : +98 35 3723 7122

E-Mail : safety@rojetechnologies.co

National contact: ROJETechnologies

SECTION 2: Hazards Identification

Emergency Overview

The product contains no substances which at their given concentration, are considered to be hazardous to health.

Appearance	Colorless
Physical state	Liquid
Odor	Mild

2.1 Principle Routes of Exposure

Acute toxicity

Inhalation

May cause drowsiness or dizziness. Ingestion causes burns of the upper digestive and respiratory tracts. Symptoms include burning sensation, coughing, wheezing, shortness of breath, headache, nausea,

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Eyes
Skin

and vomiting.
Redness. May cause slight irritation.
Prolonged contact may cause redness and irritation.

Repeated exposure may cause skin dryness or cracking.

Ingestion

May cause drowsiness or dizziness. Ingestion causes burns of the upper digestive and respiratory tracts. Symptoms include burning sensation, coughing, wheezing, shortness of breath, headache, nausea, and vomiting.

Chronic Effects

Chronic toxicity

No information available

Symptoms

No information available.

Aggravated Medical Conditions

None known.

Interactions with Other Chemicals

No information available

Environmental hazard

See Section 12: ECOLOGICAL INFORMATION

SECTION 3: *Composition/Information on Ingredients*

Chemical Name	Weight-%
Water	60-100
Magnesium Sulfate	1-5

The product contains no substances which at their given concentration, are considered to be hazardous to health

SECTION 4: *First Aid Measures*

General advice

Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove from exposure, lie down. Do not breathe dust/fume/gas/mist/vapors/spray.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

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Skin contact

Wash skin with soap and water.

Inhalation

Remove to fresh air.

Ingestion

Clean mouth with water and drink afterwards plenty of water.

SECTION 5: *Fire-Fighting Measures*

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

No information available

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA Health hazards 0

Flammability 0

Stability 0

Special Hazard -

HMIS

Health hazards 0

Flammability 0

Physical hazards 0

Personal protection -

SECTION 6: *Accidental Release Measures*

Personal precautions

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment [PPE]

Use personal protection recommended in Section 8.

Environmental precautions

See Section 12 for additional Ecological Information.

Methods for containment

Prevent further leakage or spillage if safe to do so.

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Methods for cleaning up

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. This material and its container must be disposed of as hazardous waste.

SECTION 7: Handling and Storage

Advice on safe handling

Handle in accordance with good industrial hygiene and safety practice.

Storage temperature

Refer to company site for specific information.

Storage Conditions

Keep/store only in original container.

Incompatible materials

None known based on information supplied.

SECTION 8: Exposure Controls/Personal Protection

Engineering controls

Showers. Eyewash stations.

Personal protective equipment (PPE)**Eye/face protection**

Wear safety glasses with side shields (or goggles).

Skin and body protection

Wear suitable protective clothing and gloves.

Respiratory protection

Use in well ventilated areas.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice

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SECTION 9: Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Colorless
Odor	Mild

Property

Remarks • Method

Melting point / freezing point	No information available
Boiling point / boiling range	No information available
Flash point	No information available
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	No information available
Upper flammability limit	
Lower flammability limit	
Vapor pressure	No information available
Vapor density	No information available
Relative density	No information available
Specific gravity	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Other information

Softening point	No information available
Molecular weight	No information available
VOC content (%)	No information available
Density	No information available
Bulk density	No information available

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SECTION 10: Stability and Reactivity

Reactivity

Stability

Stable under normal conditions.

Possibility of hazardous reactions

Can react briskly with oxidizers - danger of explosion.

Conditions to avoid

Incompatible materials, Ignition sources, Heat.

Incompatible materials

Strong oxidizing agents.

Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon monoxide. Carbon dioxide (CO₂).

SECTION 11: Toxicological Information

Acute toxicity

Product information

Product does not present an acute toxicity hazard based on known or supplied information.

Inhalation

Avoid breathing vapors or mists. May cause irritation of respiratory tract.

Eye contact

Redness. May cause slight irritation.

Skin contact

Prolonged contact may cause redness and irritation. Repeated exposure may cause skin dryness or cracking.

Ingestion

May cause drowsiness or dizziness. Ingestion causes burns of the upper digestive and respiratory tracts. Symptoms include burning sensation, coughing, wheezing, shortness of breath, headache, nausea, and vomiting.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Magnesium Sulfate	> 90 mL/kg (Rat)	-	-

Chronic toxicity

Skin corrosion/irritation

Mild

Serious eye damage/eye irritation

Mild

Irritation

Mild

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Corrosivity

Mild

Sensitization

Skin

No information available

Respiratory

No information available

Germ cell mutagenicity

No information available

Carcinogenicity

No information available

Reproductive toxicity

No information available

Developmental toxicity

No information available

Teratogenicity

No information available

STOT - single exposure

No information available

STOT - repeated exposure

No information available

Chronic toxicity

No information available

Subchronic toxicity

No information available

Target organ effects

Kidneys, Respiratory system, Eyes, Skin.

Neurological effects

No information available

Other adverse effects

No information available

Aspiration hazard

No information available

SECTION 12: Ecological Information

Marine pollutant

No information available

Ecotoxicity

No information available

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Magnesium Sulfate	2700: 72 h Desmodemus subspicatus mg/L EC50	19000: 24 h Lepomis macrochirus mg/L LC50 static 2610 - 3080: 96 h Pimephales promelas mg/L LC50 static	1700: 24 h Daphnia magna mg/L EC50 266.4 - 417.3: 48 h Daphnia magna mg/L EC50 Static

Persistence and degradability

No information available

Bioaccumulation

No information available

Mobility

No information available

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Other adverse effects

No information available

Ozone depletion potential (ODP)

No information available

SECTION 13: Disposal Considerations

Relevant Information

Keep out of drains, sewers, ditches and waterways.

Disposal considerations

Use a licensed professional waste disposal service to dispose of this product. Product may be dissolved in a combustible solvent or absorbed onto a combustible material and burned by a chemical incinerator.

Contaminated packaging

Empty containers must be tripled rinsed prior to disposal.

SECTION 14: Transport Information

DOT	Not regulated
TDG	Not regulated
MEX	Not regulated
ICAO (air)	Not regulated
IATA	Not regulated
IMDG	Not regulated
RID	Not regulated
ADR	Not regulated
ADN	Not regulated

SECTION 15: Regulatory Information

International Inventories

TSCA	Complies
DSL	Complies
NDSL	Complies

Chemical Name	TSCA	DSL	NDSL
Water	Present	X	Not Listed
Magnesium Sulfate	Present	X	Not Listed

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

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DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

International Regulations

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

SECTION 16: Other Information

(i) Indication of changes: No information available

(ii) Abbreviations and acronyms: No information available

(iii) Key literature references and sources for data: No information available

(iv) Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]: No information available

(v) Relevant H-statements (number and full text): No information available

(vi) Training advice: No information available

(vii) Further information:

The information provided in this Material 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.