Product Name	Magnesium chloride hexahydrate

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identification:

Product Description: Magnesium chloride hexahydrate

Synonyms: Magnesium dichloride hexahydrate

CAS-No: 7791-18-6

EC-No.: 232-094-6

Molecular Formula: $MgCl_2 .6H_2O$

REACH Registration No: A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration, or the registration is envisaged for a later registration deadline.

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

Recommended Use: Laboratory chemicals, Manufacture of substances

1.3. Details of the supplier of the safety data sheet:

- **Company** — **Finar Limited**
  184-186/P, Chacharwadi Vasna,
  Sarkhej-Bavla Highway,
  Ta.: Sanand, Dist.: Ahmedabad-382110, Gujarat, India.
  Web: www.finarchemicals.com
- **E-Mail Address** — safety.finar@aceto.com; info.finar@aceto.com

1.4. Emergency Telephone Number:

- For Emergency contact on: +91 - 2717 - 616 717

Product Name	Magnesium chloride hexahydrate

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture:

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2. Label Elements:

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3. Other 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.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances: Magnesium chloride hexahydrate

3.2. Mixtures:

Component	CAS-No	EC-No.	Weight %
Magnesium chloride hexahydrate	7791-18-6	232-094-6	> 95

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures:

- **General advice**

  Consult a physician. Show this safety data sheet to the doctor in attendance.
- **If inhaled**

  Remove to fresh air. Get medical attention immediately if symptoms occur.
- **If Contact with skin**

  Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
- **In case of eye contact**

  Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

- **If swallowed**

  Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

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

Irritant effects, respiratory paralysis, Diarrhoea, Nausea, Vomiting, cardiovascular disorders, muscular weakness, Tiredness, paralysis symptoms

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

No information Available

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media:

Suitable Extinguishing Media- Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media- For this substance/mixture no limitations of extinguishing agents are given.

5.2. Special hazards arising from the substance or mixture:

Not Combustible.

Ambient fire may liberate hazardous vapours.

Fire may cause evolution of: Hydrogen chloride gas, Calcium oxide, Magnesium Oxide.

5.3. Advice for firefighters:

Special protective equipment for firefighters:

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further Information:

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures:

Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

6.2. Environmental precautions:

Do not let product enter drains.

6.3. Methods and material for containment and cleaning up:

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4. Reference to other sections:

For disposal see Sections 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling:

Ensure adequate ventilation. Wear personal protective equipment/face protection. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. Avoid dust formation.

7.2. Conditions for safe storage, including any incompatibilities:

Keep containers tightly closed in a well-ventilated place. Moisture sensitive. Hygroscopic.

7.3. Specific end use(s):

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters:

Contains no substances with occupational exposure limit values.

8.2. Exposure Controls:

Appropriate Engineering Controls:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See section 7.1.

Personal Protective Equipment:

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye & Face Protection

Safety glasses

Body Protection

Protective clothing.

Respiratory Protection

Required when dusts are generated.

Recommended Filter type: Filter P 1 (acc. to DIN 3181) for solid particles of inert substances.

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental Exposure Controls

Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

- **Appearance:** White
- **Physical State:** Solid
- **Odor:** Odorless
- **Odor Threshold:** No data available
- **pH:** 4.5 - 7.0 at 50 g/l 20 °C
- **Melting Point:** 117 °C
- **Critical Temperature:** No data available
- **Vapor Pressure:** No data available
- **Relative Density:** No data available
- **Density:** ca.1.57 g/cm3 at 20 °C
- **Auto-Ignition Temperature:** No data available
- **Decomposition Temperature:** > 117 °C
- **Volatility:** No data available
- **Bulk Density:** No data available
- **Viscosity, dynamic:** No data available
- **Viscosity, Kinematic:** No data available
- **Water/Oil Dist. Co eff.:** No data available
- **Partition Co-efficient: n-octanol/Water:** No data available
- **Ionicity (in Water):** No data available
- **Lower Explosion Limit:** No data available

- **Upper Explosion Limit:** No data available
- **Boiling Point/Range:** No data available
- **Specific Gravity:** No data available
- **Flash Point:** No data available
- **Water Solubility:** 545.7 g/l at 20 °C

9.2. Other information:

Molecular Formula: $MgCl_2. 6H_20$

Molecular Weight: 203.31 g/mol

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity:

No data available

10.2. Chemical stability:

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions:

No data available

10.4. Conditions to avoid:

Exposure to moisture may affect product quality. Avoid dust formation.

Strong heating (decomposition).

10.5. Incompatible materials:

Metals

10.6. Hazardous decomposition products:

Hazardous decomposition products formed under fire conditions. – Chlorine, Hydrogen chloride gas, Magnesium oxide.

In the event of fire: see section 5

Product Name	Magnesium chloride hexahydrate

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

Acute Oral toxicity

LD50 Rat: > 2,000 mg/kg

OECD Test Guideline 423

Acute inhalation toxicity

Symptoms: slight mucosal irritations

Acute dermal toxicity

LD50 Rat: > 2,000 mg/kg

OECD Test Guideline 402

(anhydrous substance)

Skin irritation

Skin - Humans

Result: No skin irritation

(Human Skin Model Test)

Remarks: (ECHA)

Eye irritation

Eyes - Rabbit

Result: No eye irritation - 72 h

(OECD Test Guideline 405)

Sensitisation

Maximisation Test - Guinea pig

Result: negative

(OECD Test Guideline 406)

Germ cell mutagenicity

Mutagenicity (mammal cell test): chromosome aberration.

Human lymphocytes

Result: negative

In vitro mammalian cell gene mutation test

Mouse lymphoma test

Result: negative

The value is given in analogy to the following substances:

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

Application Route: Oral

Rat

Method: OECD Test Guideline 422

Teratogenicity

Application Route: Oral

Rat

Number of exposures: daily

Method: OECD Test Guideline 414

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Repeated dose toxicity

Rat

male and female

Oral

54 d

daily

NOAEL: > 1,000 mg/kg

OECD Test Guideline 422

Subacute toxicity

Aspiration hazard

No data available

11.2 Further Information:

After uptake of large quantities:

Metal-fume fever after inhalation of large quantities.

Nausea, Vomiting, Diarrhoea

Systemic effects:

drop in blood pressure, Cardiac irregularities, muscular weakness, paralysis symptoms, Tiredness

After absorption of large quantities:

respiratory paralysis, cardiovascular disorders

However, when the product is handled appropriately, hazardous effects are unlikely to occur.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

Toxicity to fish

LC50 Pimephales promelas (fathead minnow): 2,120 mg/l; 96 h

Analytical monitoring: yes

(anhydrous substance) (ECHA)

Toxicity to daphnia and other aquatic invertebrates

Static test LC50 Daphnia magna (Water flea): 548.4 mg/l; 48 h

Analytical monitoring: yes

(ECHA)

Toxicity to algae

Growth rate EC50 Desmodesmus subspicatus (green algae): > 100 mg/l; 72 h

Analytical monitoring: yes

OECD Test Guideline 201

Growth rate NOEC Desmodesmus subspicatus (green algae): 100 mg/l; 72 h

Analytical monitoring: yes

OECD Test Guideline 201

Toxicity to bacteria

Static test EC50 activated sludge: > 900 mg/l; 3 h

OECD Test Guideline 209

Static test NOEC activated sludge: 900 mg/l; 3 h

OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

Semi-static test EC10 Daphnia magna (Water flea): 321 mg/l; 21 d

Analytical monitoring: yes

(ECHA)

12.2 Persistence and degradability:

Biodegradability

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

12.3 Bioaccumulate potential:

No data available

12.4 Mobility in soil:

No data available

12.5 Results of PBT and vPvB assessment:

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.

12.6 Other adverse effects:

Additional ecological information

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Waste treatment methods:

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transport information

	Land transport (ADR/RID)	Air transport (IATA)	Sea transport (IMDG)
14.1 UN number	Not classified as dangerous in the meaning of transport regulations.		
14.2 Proper shipping name	Not classified as dangerous in the meaning of transport regulations.		
14.3 Class	Not classified as dangerous in the meaning of transport regulations.		

14.4 Packing group	Not classified as dangerous in the meaning of transport regulations.
14.5 Environmentally hazardous	Not classified as dangerous in the meaning of transport regulations.
14.6 Special precautions for user	Not classified as dangerous in the meaning of transport regulations.

SECTION 15: Regulatory information

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

National legislation

Storage class 10 - 13

15.2 Chemical safety assessment:

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

Training advice

Provide adequate information, instruction and training for operators.

References: Not available

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