1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: Magnesium Sulphate, 20% Aqueous Solution
Product description: Magnesium sulphate, water
Product Use: Pulping additive
Manufacturer: National Silicates
429 Kipling Ave
Toronto, ON  M8Z 5C7
Telephone number: 416-255-7771

In case of emergency call: 1 416-255-7771

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical and Common Name</th>
<th>CAS Registry Number</th>
<th>Wt. %</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>80%</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
<tr>
<td>Sulphuric acid, magnesium salt; Magnesium sulphate</td>
<td>7487-88-9</td>
<td>20%</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
</tbody>
</table>

3. HAZARDS IDENTIFICATION

Emergency Overview: Colorless, transparent, odourless liquid. Non-combustible. At very high temperatures, magnesium oxide, sulphur dioxide, and sulphur trioxide may be generated. Causes mild eye irritation.

Eye contact: Causes mild irritation to the eye.
Skin contact: No known adverse effects.
Inhalation: Causes nausea, vomiting, abdominal cramps, and diarrhea.
Ingestion: Causes nausea, vomiting, abdominal cramps, and diarrhea.
Chronic hazards: No known chronic hazards. Not listed by NTP, IARC or OSHA as a carcinogen.
Physical hazards: Spilled material can be slippery.

4. FIRST AID MEASURES

Eye: In case of contact, immediately flush eyes out with plenty of water for at least 15 minutes. Get medical attention if irritation persists.
Skin: Not applicable.
Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion: If large quantities of this material are swallowed, call a physician immediately. Do NOT induce vomiting unless directed to do so by a physician. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

Flammable limits: This material is non-combustible.
Extinguishing Media: This material is compatible with all extinguishing media
Hazardous to fire-fighters: See Section 3 for information on hazards when this material is present in the area of a fire.
Fire-fighting equipment: The following protective equipment for fire fighters is recommended when this material is present in the area of a fire: chemical goggles, body-covering protective clothing, self-contained breathing apparatus.
6. ACCIDENTAL RELEASE MEASURES

Personal protection: Wear chemical goggles, See section 8.


Small spill cleanup: Mop up discharged material. Flush residue with water. Observe environmental regulations.

Large spill cleanup: Keep unnecessary people away; isolate hazard area and deny entry. Do not touch or walk through spilled material. Stop leak if you can do so without risk. Prevent runoff from entering into storm sewers and ditches which lead to natural waterways. Isolate, dike and store discharged material, if possible. Use sand or earth to contain spilled material. If containment is impossible, flush with large quantities of water.

CERCLA RQ (US): There is no CERCLA Reportable Quantity for this material.

7. HANDLING AND STORAGE

Handling: Avoid breathing mist. Promptly clean up spills.

Storage: Keep containers closed. Recommended storage temperature 50º-120ºF.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: Use with adequate ventilation. Safety shower and eyewash fountain should be within direct access.

Respiratory protection: Use a NIOSH-approved dust and mist respirator where mist occurs. Observe Provincial regulations for respirator use.

Skin protection: Wear gloves if irritation occurs.

Eye protection: Wear chemical goggles.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Transparent liquid.

Color: Colorless.

Odor: Odourless.

pH: Approximately 8.5

Specific gravity: 1.22 g/cm³ at 20º C

Solubility in water: Miscible.

10. STABILITY AND REACTIVITY

Stability: This material is stable under all conditions of use and storage.

Conditions to avoid: None.

Materials to avoid: Metal hydrides and other water reactive materials.

Hazardous decomposition products: At very high temperatures, magnesium oxide, sulphur dioxide, and sulphur trioxide may be generated.
11. TOXICOLOGICAL INFORMATION

**Acute Data:**
When tested for primary irritation potential, a similar material caused mild eye irritation. RTECS reports the following data for magnesium sulphate:
Oral \( \text{TDL}_0 = 428 \, \text{mg/kg in man} \) \( 351 \, \text{mg/kg in women} \)

12. ECOLOGICAL INFORMATION

**Eco toxicity:**
Data not available.

**Environmental Fate:**
This material is not persistent in aquatic systems and does not contribute to BOD.
It does not bioconcentrate up the food chain.

**Physical/Chemical:**
Sinks and mixes with water.

13. DISPOSAL CONSIDERATIONS

**Classification:**
Waste material is not a hazardous waste.

**Disposal Method:**
Dispose in accordance with federal, provincial and local regulations.

14. TRANSPORT INFORMATION

**TDG UN Status:**
This material is not regulated hazardous material for transportation.

15. REGULATORY INFORMATION

**WHMIS (Canada):**
Not a WHMIS controlled product

**DSL (Canada):**
All components of this formulation are listed on the CEPA-DSL

**CERCLA (US):**
No CERCLA Reportable Quantity has been established for this material.

**SARA TITLE III (US):**
Not an Extremely Hazardous Substance under §302. Not a Toxic Chemical under §313. Hazard Categories under §§311/312: Acute

**TSCA (US):**
All ingredients of this material are listed on the TSCA inventory.

16. OTHER INFORMATION

**Prepared by:**
HSE Dept

**Supersedes revision of:**
November 17, 2009

The information on this safety data sheet is believed to be accurate and is the best information available to National Silicates. This document is intended only as a guide to the appropriate precautions for handling a chemical by a person trained in chemical handling.
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