1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

<table>
<thead>
<tr>
<th>Product name</th>
<th>Magnesium and Potassium Sulphate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade name</td>
<td>Dynamate</td>
</tr>
<tr>
<td>Other names</td>
<td>Sulphate of potash magnesia, langbeinite</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Identified uses</th>
<th>For use in animal feed applications.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictions on use</td>
<td>Not intended for human consumption.</td>
</tr>
</tbody>
</table>

1.3 Details of the supplier of the safety data sheet

Distributed by : Pestell Minerals & Ingredients
141 Hamilton Rd
New Hamburg, ON
CANADA N3A 2H1

<table>
<thead>
<tr>
<th>Telephone</th>
<th>+1 519 662-2877</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td><a href="mailto:qa@pestell.com">qa@pestell.com</a></td>
</tr>
</tbody>
</table>

1.4 Emergency telephone number

<table>
<thead>
<tr>
<th>Emergency Phone #</th>
<th>+1 613 996-6666 CANUTEC (Can) +1-703-527-3887 (CHEMTREC) (US)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture.

2.2 GHS Label elements, including precautionary statements

Label elements not required.

Precautionary Statements

Use good industrial hygiene when handling this product.

Wash hands carefully with soap and water.

Store apart from incompatible materials (see Section 10 for more information).

Dispose of waste in accordance with local authorities.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixture

<table>
<thead>
<tr>
<th>Substances</th>
<th>Formula</th>
<th>CAS-No.</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Magnesium sulphate (Langbeinite)</td>
<td>K2 SO4 · 2MgSO4</td>
<td>7447-40-7</td>
<td>94.5-99.5%</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td>NaCl</td>
<td>7647-14-5</td>
<td>0.5 -2.0%</td>
</tr>
<tr>
<td>Other naturally-occurring minerals</td>
<td>-</td>
<td>Various</td>
<td>0.5-3.5%</td>
</tr>
</tbody>
</table>
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
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Direct contact with eyes may give temporary irritation.

May aggravate preexisting respiratory conditions and high blood pressure.

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for surrounding fire.

Unsuitable extinguishing media
Not applicable.

5.2 Special hazards arising from the substance or mixture

When subjected to high temperatures, combustion could release oxides of sulphur.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Prevent contaminated water from entering drains and sewers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains, sewers or water courses. Large spills can be hazardous for the environment.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

<table>
<thead>
<tr>
<th>Exposure Guidelines:</th>
<th>OSHA Permissible Exposure Limits (PEL):</th>
<th>Particulates Not Otherwise Regulated:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>~7 in a 5% solution</td>
<td>5 mg/m(^3) TWA (respirable); 15 mg/m(^3) TWA (total)</td>
</tr>
<tr>
<td></td>
<td>ACGIH Threshold Limit Value (TLV):</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

**Appropriate engineering controls**
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**Personal protective equipment**

- **Eye/face protection**
  Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

- **Skin protection**
  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.

- **Body Protection**
  Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

- **Respiratory protection**
  Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**
Do not let product enter drains, sewers or water courses.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values in this section are determined at 20°C (68°F) and 760 mm Hg (1 atm).

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Appearance</td>
<td>Form: crystalline or granular Colour: White to pink to grey</td>
</tr>
<tr>
<td>b) Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>c) Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>d) pH</td>
<td>~7 in a 5% solution</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

10.1 Reactivity
NaCl may react with noble metals, such as iron or steel, as well as bromine or trifluoride.

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
Electrolysis of mixtures containing NaCl and nitrogen compounds may form explosive nitrogen trichloride. A potentially explosive reaction may occur if NaCl is mixed with dichloromaleic anhydride and urea.

10.4 Conditions to avoid
Exposure to moisture, incompatible materials.

10.5 Incompatible materials
Strong acids, Strong oxidizing agents. Avoid contact with hot nitric acid, may cause evolution of toxic nitrosyl chloride. Contact with other strong acids may produce irritating hydrogen chloride gas.

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Sulphur oxides. Other decomposition products - No data available.
11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

**Acute toxicity - Potassium magnesium sulphate**

- Oral: No data available
- Inhalation: No data available
- Dermal: No data available

**Acute toxicity - Sodium chloride**

- LD50 (rat, oral) > 3000 mg/kg
- LD50 (mouse oral) > 4000 mg/kg
- Inhalation: LC50 (rat) > 42 g/m³/1 hour
- Dermal: No data available

**Skin corrosion/irritation**
No data available

**Serious eye damage/eye irritation**

- Eyes - Rabbit
  - Result: slight irritation

**Respiratory or skin sensitisation**
No data available

**Germ cell mutagenicity**
No data available

**Carcinogenicity**
No data available

**Reproductive toxicity**
No data available

- No data available

**Specific target organ toxicity - single exposure**
No data available

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available

**Additional Information**

12. ECOLOGICAL INFORMATION

12.1 Toxicity

- Toxicity to fish: No data available
- Toxicity to daphnia and other aquatic invertebrates: No data available
- Toxicity to algae: No data available
- Toxicity to bacteria: No data available
12.2 Persistence and degradability
The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

TDG (Canada)
Not dangerous goods

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

FDA:
Potassium Chloride used as a nutrient and/or dietary supplement in food for human consumption. FDA Food Substances Generally Recognized as Safe 21 CFR 184.1 (2010).

16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Pestell Minerals & Ingredients and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

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