1 Identification of the substance/mixture and of the company/undertaking

Product identifier

Trade name: MagneHalo™ Beads 20% slurry

Article number: G7282

Application of the substance / the preparation Laboratory chemicals

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.
1-800-356-9526 or (608)-274-4330

Information department: MSDS author: Regulatory.Affairs@promega.com

Emergency telephone number:
For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>9004-34-6 Cellulose</td>
<td>20-25%</td>
</tr>
<tr>
<td>64-17-5 ethanol</td>
<td>10-15%</td>
</tr>
</tbody>
</table>

Additional information: For the wording of the listed risk phrases refer to section 15.

3 Hazards identification

Classification of the substance or mixture

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Flammable.

Classification system:
The classification was made according to the latest editions of international substances lists, and is expanded upon by company and technical literature data.

Labelling according to EU guidelines:
The product has been classified and marked in accordance with directives on hazardous materials.

Risk phrases:
Flammable.
Trade name: MagneHalo™ Beads 20% slurry

Safety phrases:
Keep container tightly closed.
Keep away from sources of ignition - No smoking.
Avoid contact with eyes.
In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.
This material and its container must be disposed of as hazardous waste.

Classification system:
NFPA ratings (scale 0 - 4)
Health = 1
Fire = 2
Reactivity = 0
HMIS-ratings (scale 0 - 4)
Health = 1
Fire = 2
Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Combustible
Primary route(s) of entry: Oral
Target Organ(s):
May cause Liver damage (Hepatotoxin)
May affect Nervous system (Neurotoxin)
Other hazards: Keep away from sources of ignition.

4 First aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Generally the product does not irritate the skin.
After eye contact: Rinse opened eye for several minutes under running water.
After swallowing: If symptoms persist consult doctor.

5 Firefighting measures

Suitable extinguishing agents:
CO2, sand, extinguishing powder. Do not use water.
Use fire fighting measures that suit the environment.
For safety reasons unsuitable extinguishing agents:
Water
Water with full jet
Special hazards arising from the substance or mixture: None known

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Keep away from ignition sources
Wear protective clothing.
Environmental precautions: Do not allow to enter sewers/ surface or ground water.
Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Do not flush with water or aqueous cleansing agents
Reference to other sections
See Section 7 for information on safe handling.
7 Handling and storage

Handling:
Precautions for safe handling Use only in well ventilated areas.
Information about protection against explosions and fires:
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Storage:
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Not required.
Further information about storage conditions: Keep receptacle tightly sealed.
Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>Substance</th>
<th>PEL</th>
<th>REL</th>
<th>TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>9004-34-6 Cellulose</td>
<td>15* **mg/m³</td>
<td>10* **mg/m³</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td></td>
<td>*total dust</td>
<td>**respirable fraction</td>
<td></td>
</tr>
<tr>
<td>64-17-5 ethanol</td>
<td>1900 mg/m³, 1000 ppm</td>
<td>1900 mg/m³, 1000 ppm</td>
<td>Short-term value: 1880 mg/m³, 1000 ppm</td>
</tr>
</tbody>
</table>

Additional information: The lists that were valid during the creation were used as basis.
Personal protective equipment:
General protective and hygienic measures: Wash hands before breaks and at the end of work.
Breathing equipment: Not required.
Protection of hands:
Protective gloves
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Eye protection: Tightly sealed goggles

9 Physical and chemical properties

General Information
Appearance:
Form: Fluid
Color: Colorless
Odor: Characteristic
Odour threshold: Not determined.
### Change in condition

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point/Melting range</td>
<td>Undetermined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range</td>
<td>Undetermined.</td>
</tr>
<tr>
<td>Flash point</td>
<td>21 - 55°C (70 - 131 °F)</td>
</tr>
<tr>
<td>Flammability (solid, gaseous)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>340°C (644 °F)</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Auto igniting</td>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td>Danger of explosion</td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td>Explosion limits</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>3.5 Vol %</td>
</tr>
<tr>
<td>Upper</td>
<td>15.0 Vol %</td>
</tr>
<tr>
<td>Vapor pressure at 20°C (68 °F)</td>
<td>59 hPa (44 mm Hg)</td>
</tr>
<tr>
<td>Density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solubility in / Miscibility with Water</td>
<td>Not miscible or difficult to mix.</td>
</tr>
<tr>
<td>Segregation coefficient (n-octonol/water)</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Dynamic</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Kinematic</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solvent content</td>
<td></td>
</tr>
<tr>
<td>Organic solvents</td>
<td>15.0 %</td>
</tr>
<tr>
<td>Water</td>
<td>60.0 %</td>
</tr>
<tr>
<td>VOC content</td>
<td>15.0 %</td>
</tr>
<tr>
<td>Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

### 10 Stability and reactivity

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.  
**Incompatible materials:** No further relevant information available.  
**Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

**Acute toxicity:**  
**LD/LC50 values that are relevant for classification:** No data available  
**Primary irritant effect:**  
- *on the skin:* No irritant effect.  
- *on the eye:* Irritating effect.
Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 04/17/2012
Reviewed on 04/17/2012

Trade name: MagneHalo™ Beads 20% slurry

Sensitization: No sensitizing effects known.

12 Ecological information

Aquatic toxicity: Not harmful to the aquatic environment
Persistence and degradability: Not available
Behavior in environmental systems:
Bioaccumulative potential: Not known
Ecotoxic effects:
Remark: Not available
Additional ecological information:
General notes:
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations

Waste treatment methods
Recommendation:
Disposal should be in accordance with applicable regional, national and local laws and regulations.
Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number: None
UN proper shipping name: None
Transport hazard class(es): None
Packing group: None
Environmental hazards:
Marine pollutant: No
Special precautions for user: Not applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable.

15 Regulatory information

Sara
Section 355 (extremely hazardous substances):
None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):
None of the ingredients are listed.
### TSCA (Toxic Substances Control Act):
All ingredients are listed.

### Proposition 65

**Chemicals known to cause cancer:**
None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for females:**
None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for males:**
None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**
- 64-17-5 ethanol

### Cancerogenity categories

**EPA (Environmental Protection Agency)**
None of the ingredients are listed.

**IARC (International Agency for Research on Cancer)**
None of the ingredients are listed.

**NTP (National Toxicology Program)**
None of the ingredients are listed.

**TLV (Threshold Limit Value established by ACGIH)**
- 64-17-5 ethanol A3

**MAK (German Maximum Workplace Concentration)**
- 64-17-5 ethanol 5

**NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients are listed.

**OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients are listed.

### Product related hazard informations:
The product has been classified and marked in accordance with directives on hazardous materials.

**Risk phrases:**
- Flammable.

**Safety phrases:**
- Keep container tightly closed.
- Keep away from sources of ignition - No smoking.
- Avoid contact with eyes.
- In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.
- This material and its container must be disposed of as hazardous waste.

### National regulations:

<table>
<thead>
<tr>
<th>Class</th>
<th>Share in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wasser</td>
<td>60.0</td>
</tr>
<tr>
<td>NK</td>
<td>15.0</td>
</tr>
</tbody>
</table>

**Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS:
Promega Corporation
Environmental Health and Safety Department
2800 Woods Hollow Road
Madison, WI
Ph: (608) 274-4330

* Data compared to the previous version altered.