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

1.1. Product identifier

<table>
<thead>
<tr>
<th>Product name</th>
<th>MAGRABAR® 3001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material No.</td>
<td>7518</td>
</tr>
<tr>
<td>Historic Material No.</td>
<td>F0615</td>
</tr>
</tbody>
</table>

Contains Silica, amorphous, fumed, cryst.-free

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

<table>
<thead>
<tr>
<th>Relevant identified uses</th>
<th>Anti-foaming agent (defoamer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses advised against</td>
<td>Consumer use</td>
</tr>
</tbody>
</table>

1.3. Details of the supplier of the safety data sheet

Manufacturer
MUNZING NORTH AMERICA – MAGRABAR LLC
6100 Madison Court
Morton Grove, IL 60053-3216
United States
Email: info@magrabar.com
Telephone: 1-847-965-7550

Supplier
Münzing Chemie GmbH
Münzingstrasse 2
74232 Abstatt
Germany
Email: info@munzing.com
Phone: +49 (0) 7131/987-0

Emergency Telephone

Emergency telephone
CHEMTREC: +1 703 741 5970

Section 2: HAZARDS IDENTIFICATION
2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

2.2. Label Elements
This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]
EUH210 - Safety data sheet available on request

2.3. Other hazards
No information available.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>EC No.</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
<th>REACH No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthetic Amorphous Silica</td>
<td>Listed</td>
<td>-</td>
<td>3 - &lt;5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Synthetic Amorphous Silica</td>
<td>Listed</td>
<td>-</td>
<td>1 - &lt;3</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Full text of H- and EUH-phrases: see section 16
Substance with a Community workplace exposure limit.

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

Eye Contact
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms persist, call a physician.

Skin Contact
IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If symptoms persist, call a physician.

Inhalation
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

Ingestion
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

Self-Protection of the First Aider
Use personal protection equipment.

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

Most important symptoms and effects
No information available.

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

Notes to Physician
Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES
5.1. Extinguishing media

Suitable extinguishing media  Carbon dioxide (CO2). Foam. Dry chemical. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media  No information available.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products  Oxides of sulfur. Carbon monoxide. Carbon dioxide (CO2). Flammable/toxic gases may accumulate in tanks and hopper cars. Produce flammable and toxic gases on contact with water.

5.3. Advice for firefighters

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

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions  Use personal protection equipment. Avoid contact with skin, eyes or clothing.

Protective precautions  Use personal protection equipment.

6.2. Environmental precautions

Environmental precautions  Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for Containment  Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Methods for Clean-Up  Take up mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections

Reference to other sections  See Sections 5 & 7 for additional information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Handling  Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Use personal protection equipment.

General Hygiene Considerations  Handle in accordance with good industrial hygiene and safety practice. Wash hands thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions  Keep containers tightly closed in a dry, cool and well-ventilated place. Keep cool. Protect from sunlight. Keep away from open flames, hot surfaces and sources of ignition. Keep from freezing.

7.3. Specific end use(s)
Specific Uses

No information available.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Italy</th>
<th>Portugal</th>
<th>Netherlands</th>
<th>Finland</th>
<th>Denmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthetic Amorphous Silica</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>TWA: 5 mg/m³</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Austria</th>
<th>Switzerland</th>
<th>Poland</th>
<th>Norway</th>
<th>Ireland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthetic Amorphous Silica</td>
<td>TWA: 4 mg/m³</td>
<td>-</td>
<td>TWA: 10.0 mg/m³</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Synthetic Amorphous Silica
TWA: 2 mg/m³

Derived No Effect Level (DNEL)
No information available.

Predicted No Effect Concentration (PNEC)
No information available.

8.2. Exposure controls

Engineering Controls
Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/Face Protection
Safety glasses with side-shields.

Skin protection
Long sleeved clothing. Wear protective nitrile rubber gloves.

Respiratory protection
In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

Environmental exposure controls
No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks/Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Opaque</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Mild Organic</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Melting point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Boiling point</td>
<td>&gt; 400 °F</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>282 °C</td>
<td>Open cup</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>&lt; 0.1 mmHg</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>
Section 10: STABILITY AND REACTIVITY

10.1. Reactivity
Reactivity
Stable under normal conditions.

10.2. Chemical stability
Chemical Stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
Possibility of Hazardous Reactions
None under normal processing.

Hazardous Polymerization
Hazardous polymerization does not occur.

10.4. Conditions to avoid
Conditions to Avoid
Heat, flames and sparks.

10.5. Incompatible materials
Incompatible Materials
Strong oxidizing agents.

Hazardous decomposition products
Carbon monoxide. Carbon dioxide (CO2). Fumes.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute Toxicity

Product Information

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes</td>
<td>Contact with eyes may cause irritation. Avoid contact with eyes.</td>
<td></td>
</tr>
<tr>
<td>Skin</td>
<td>May cause skin irritation. Avoid contact with skin.</td>
<td></td>
</tr>
<tr>
<td>Inhalation</td>
<td>May cause irritation of respiratory tract. Avoid breathing vapors or mists.</td>
<td></td>
</tr>
<tr>
<td>Ingestion</td>
<td>May be harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage.</td>
<td></td>
</tr>
<tr>
<td>Unknown acute toxicity</td>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>

| ATEmix (oral)  | 4,478.00 mg/kg |
| ATEmix (dermal)| 5,564.00 mg/kg |
ATEmix (inhalation-dust/mist) 6.52 mg/L

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthetic Amorphous Silica</td>
<td>&gt; 5000 mg/kg (Rat)</td>
<td>&gt; 5000 mg/kg (Rabbit)</td>
<td>LC0: &gt;= 0.139 mg/l (4hr). Maximum attainable concentration. No deaths occurred.</td>
</tr>
<tr>
<td>Synthetic Amorphous Silica</td>
<td>&gt; 5000 mg/kg (Rat)</td>
<td>&gt; 5000 mg/kg (Rabbit)</td>
<td>LC50: &gt;= 0.139 mg/l (4hr). Maximum attainable concentration. No deaths occurred.</td>
</tr>
<tr>
<td>Sodium sulfate</td>
<td>&gt; 10000 mg/kg (Rat)</td>
<td>&gt; 4 g/kg (Rabbit)</td>
<td></td>
</tr>
</tbody>
</table>

Skin Corrosion/Irritation No information available.
Eye damage/irritation No information available.
Sensitization No information available.
Mutagenic effects No information available.
Reproductive Effects No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Aspiration Hazard No information available.
Carcinogenic effects No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Algae</th>
<th>Fish</th>
<th>Daphnia magna</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthetic Amorphous Silica</td>
<td>EC50, 72h: Pseudokirchneriella subcapitata: 440 mg/L</td>
<td>LC50: 10000 96h (Brachydanio rerio)</td>
<td>EC50: &gt;10000 24h</td>
</tr>
<tr>
<td>Synthetic Amorphous Silica</td>
<td></td>
<td>LC50: &gt;10000 mg/L, 96h (Brachydanio rerio)</td>
<td>EC50: &gt;10000, 24h (daphnia)</td>
</tr>
<tr>
<td>Sodium sulfate</td>
<td></td>
<td>13500 - 14500: 96 h Pimephales promelas mg/L LC50 3040 - 4380: 96 h Lepomis macrochirus mg/L LC50 static 13500: 96 h Lepomis macrochirus mg/L LC50 6800: 96 h Pimephales promelas mg/L LC50 static</td>
<td>2564: 48 h Daphnia magna mg/L EC50 630: 96 h Daphnia magna mg/L EC50</td>
</tr>
</tbody>
</table>

Unknown Aquatic Toxicity Not applicable.

Persistance and degradability

| Persistance and degradability | No information available. |

12.3. Bioaccumulative potential

Bioaccumulation/Accumulation No information available.

12.4. Mobility in soil

Mobility in Environmental Media No information available.
12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment  . Not applicable.

12.6. Other adverse effects

Other adverse effects  . No information available.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues/unused products  Contain and dispose of waste according to local regulations.

Contaminated packaging  Empty remaining contents.

Waste codes / waste designations according to EWC / AVV  Not applicable.

Section 14: TRANSPORT INFORMATION

ADR/RID  Not regulated

IMDG/IMO  Not regulated

IATA  Not regulated

Section 15: REGULATORY INFORMATION

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

International Inventories

US TSCA  Complies
Australia (AICS)  Complies
Canada (DSL)  Complies
China (IECSC)  Complies
Japan (ENCS)  Contact manufacturer
South Korea (KECL)  Complies
Philippines (PICCS)  Complies
New Zealand  Complies
Taiwan (TCSI)  Complies

Legend
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

Germany

WGK Classification (AwSV)  Water endangering class = 1 (self estimation)

European Union
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Authorizations and/or restrictions on use:
This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV). This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII).

Persistent Organic Pollutants
Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009
Not applicable

15.2. Chemical safety assessment

No information available

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3
No information available

Legend
SVHC: Substances of Very High Concern for Authorization:

TWA - TWA (time-weighted average)
STEL - STEL (Short Term Exposure Limit)
Ceiling - Maximum limit value
* - Skin designation

Classification procedure Minimum classification

Issue Date: 2015-11-04
Revision Date: 2019-07-11
Reason for revision Not available.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information provided in this 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.

End of Safety Data Sheet