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

1.1. Product identifier

Product Description: Ascarite(II)®, CO2 absorbent, product of Arthur H. Thomas Company
Cat No.: 208080000; 208080025; 208081000; 208085000
Synonyms: Sodium Hydroxide-coated Silica.

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

Recommended Use: Laboratory chemicals
Uses advised against: No Information available

1.3. Details of the supplier of the safety data sheet

Company: Acros Organics BVBA
Janssen Pharmaceuticaalaaan 3a
2440 Geel, Belgium
E-mail address: begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

For information US call: 001-800-ACROS-01 / Europe call: +32 14 57 52 11
Emergency Number US:001-201-796-7100 / Europe: +32 14 57 52 99
CHEMTREC Tel. No.US:001-800-424-9300 / Europe:001-703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Substances/mixtures corrosive to metal Category 1

Health hazards

Skin Corrosion/Irritation Category 1A
Serious Eye Damage/Eye Irritation Category 1

Environmental hazards

Based on available data, the classification criteria are not met

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Symbol(s) C - Corrosive
R-phrase(s) R35 - Causes severe burns

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

2.2. Label elements
Signal Word: Danger

Hazard Statements
- H290 - May be corrosive to metals
- H314 - Causes severe skin burns and eye damage

Precautionary Statements
- P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
- P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P310 - Immediately call a POISON CENTER or doctor/ physician
- P303 + P361 + P338 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower
- P260 - Do not breathe dust/fume/gas/mist/vapors/spray

2.3. Other hazards

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>EC-No.</th>
<th>Weight %</th>
<th>CLP Classification - Regulation (EC) No 1272/2008</th>
<th>DSD Classification - 67/548/EEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ascarite</td>
<td>81133-20-2</td>
<td></td>
<td>100</td>
<td>Skin Corr. 1A (H314) Eye Dam. 1 (H318) Met. Corr. 1 (H290)</td>
<td>C; R35</td>
</tr>
<tr>
<td>Silica, amorphous</td>
<td>7631-86-9</td>
<td>EEC No. 231-545-4</td>
<td>5 - 10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice
Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required. Keep eye wide open while rinsing.

Skin Contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately.
**Ingestion**
Do not induce vomiting. Immediate medical attention is required. Never give anything by mouth to an unconscious person. Drink plenty of water.

**Inhalation**
Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Call a physician or Poison Control Center immediately.

**Protection of First-aiders**
Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

**4.2. Most important symptoms and effects, both acute and delayed**
Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

**4.3. Indication of any immediate medical attention and special treatment needed**
Notes to Physician: Treat symptomatically.

---

**SECTION 5: FIREFIGHTING MEASURES**

**5.1. Extinguishing media**

**Suitable Extinguishing Media**
CO₂, dry chemical, dry sand, alcohol-resistant foam.

**Extinguishing media which must not be used for safety reasons**
No information available.

---

**5.2. Special hazards arising from the substance or mixture**
The product causes burns of eyes, skin and mucous membranes.

**Hazardous Combustion Products**
Carbon monoxide (CO), Carbon dioxide (CO₂), Sodium oxides, Thermal decomposition can lead to release of irritating gases and vapors.

---

**5.3. Advice for firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

---

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**6.1. Personal precautions, protective equipment and emergency procedures**
Use personal protective equipment. Evacuate personnel to safe areas. Avoid contact with skin, eyes and clothing.

**6.2. Environmental precautions**
Should not be released into the environment. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

**6.3. Methods and material for containment and cleaning up**
Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

**6.4. Reference to other sections**
Refer to protective measures listed in Sections 8 and 13.
### SECTION 7: HANDLING AND STORAGE

#### 7.1. Precautions for safe handling

Use only under a chemical fume hood. Wear personal protective equipment. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not ingest.

#### 7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area.

#### 7.3. Specific end use(s)

Use in laboratories

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1. Control parameters

**Exposure limits**

List source(s):


<table>
<thead>
<tr>
<th>Component</th>
<th>European Union</th>
<th>The United Kingdom</th>
<th>France</th>
<th>Belgium</th>
<th>Spain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, amorphous</td>
<td></td>
<td>STEL: 18 mg/m³ 15 min TWA: 6 mg/m³ 8 hr</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td></td>
<td>STEL: 7.2 mg/m³ 15 min TWA: 2.4 mg/m³ 8 hr</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Italy</th>
<th>Germany</th>
<th>Portugal</th>
<th>The Netherlands</th>
<th>Finland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, amorphous</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Austria</th>
<th>Denmark</th>
<th>Switzerland</th>
<th>Poland</th>
<th>Norway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, amorphous</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Bulgaria</th>
<th>Croatia</th>
<th>Ireland</th>
<th>Cyprus</th>
<th>Czech Republic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, amorphous</td>
<td>TWA: 6 mg/m³ 8 hr. total inhalable dust</td>
<td></td>
<td></td>
<td></td>
<td>TWA: 0.1 mg/m³ 8 hodinách. respirable fraction</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>TWA: 2.0 mg/m³</td>
<td>STEL: 2 mg/m³ 15 minutama.</td>
<td></td>
<td></td>
<td>TWA: 1 mg/m³ 8 hodinách. Ceiling: 2 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, amorphous</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Component | Estonia | Gibraltar | Greece | Hungary | Iceland
---|---|---|---|---|---
Silica, amorphous | TWA: 2 mg/m³ 8 tundides. respirable dust | | | | 
Sodium hydroxide | TWA: 1 mg/m³ 8 tundides. | STEL: 2 mg/m³ TWA: 2 mg/m³ | STEL: 2 mg/m³ 15 percekben. TWA: 2 mg/m³ 8 órában. | | 

Component | Latvia | Lithuania | Luxembourg | Malta | Romania
---|---|---|---|---|---
Silica, amorphous | TWA: 1 mg/m³ | | | | 
Sodium hydroxide | TWA: 0.5 mg/m³ | Ceiling: 2 mg/m³ | | | 

Component | Russia | Slovak Republic | Slovenia | Sweden | Turkey
---|---|---|---|---|---
Silica, amorphous | TWA: 4.0 mg/m³ total aerosol | TWA: 4 mg/m³ 8 urah inhalable fraction | | | 
Sodium hydroxide | TWA: 2 mg/m³ | TWA: 2 mg/m³ 8 urah inhalable fraction STEL: 2 mg/m³ 15 minutah inhalable fraction | LLV: 1 mg/m³ 8 timmar. inhalable dust CLV: 2 mg/m³ | | 

 Biological limit values
This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Monitoring methods
BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Measures
Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

Personal protective equipment
Eye Protection Goggles (European standard - EN 166)

Hand Protection Protective gloves

<table>
<thead>
<tr>
<th>Glove material</th>
<th>Breakthrough time</th>
<th>Glove thickness</th>
<th>EU standard</th>
<th>Glove comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neoprene</td>
<td>See manufacturers recommendations</td>
<td>-</td>
<td>EN 374</td>
<td>(minimum requirement)</td>
</tr>
</tbody>
</table>
Inspect gloves before use. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. Remove gloves with care avoiding skin contamination.

**Skin and body protection**
- Long sleeved clothing

**Respiratory Protection**
- When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly.

**Large scale/emergency use**
- Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
- **Recommended Filter type**: Particulates filter conforming to EN 143.

**Small scale/Laboratory use**
- Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
- **Recommended half mask**: Valve filtering: EN405 or Half mask: EN140 plus filter, EN 141.

**Hygiene Measures**
- Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls**
- Prevent product from entering drains.

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Brown</td>
</tr>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Odor</td>
<td>odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>No data available</td>
</tr>
<tr>
<td>Softening Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid,gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosion Limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Specific Gravity / Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>Solid</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
</tr>
<tr>
<td>Partition Coefficient (n-octanol/water)</td>
<td>No data available</td>
</tr>
</tbody>
</table>

**Ascarite(II)®, CO2 absorbent, product of Arthur H. Thomas Company**

**Revision Date**: 14-Nov-2013
SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
None known, based on information available.

10.2. Chemical stability
Stable under normal conditions. Hygroscopic.

10.3. Possibility of hazardous reactions
Hazardous Polymerization
Hazardous polymerization does not occur.

Hazardous Reactions
None under normal processing.

10.4. Conditions to avoid
Incompatible products, Excess heat, Exposure to moist air or water.

10.5. Incompatible materials
Strong oxidizing agents. Strong acids.

10.6. Hazardous decomposition products
Carbon monoxide (CO), Carbon dioxide (CO₂), Sodium oxides. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects
Product Information
No acute toxicity information is available for this product

(a) acute toxicity;
Oral Based on available data, the classification criteria are not met
Dermal Based on available data, the classification criteria are not met
Inhalation Based on available data, the classification criteria are not met

Toxicology data for the components

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral (Rat)</th>
<th>LD50 Dermal (Rabbit)</th>
<th>LC50 Inhalation (Rat) 4 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, amorphous</td>
<td>&gt;5000 mg/kg</td>
<td>&gt;2000 mg/kg (Rabbit)</td>
<td>&gt;2.2 mg/L (Rat)</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td></td>
<td>1350 mg/kg (Rabbit)</td>
<td></td>
</tr>
</tbody>
</table>

(b) skin corrosion/irritation;
Category 1 A

(c) serious eye damage/irritation;
Category 1

(d) respiratory or skin sensitization;
Respiratory No data available
Skin No data available

(e) germ cell mutagenicity;
No data available
(f) carcinogenicity; No data available

The table below indicates whether each agency has listed any ingredient as a carcinogen

<table>
<thead>
<tr>
<th>Component</th>
<th>EU</th>
<th>UK</th>
<th>Germany</th>
<th>IARC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, amorphous</td>
<td></td>
<td></td>
<td></td>
<td>group 3</td>
</tr>
</tbody>
</table>

(g) reproductive toxicity; No data available
(h) STOT-single exposure; No data available
(i) STOT-repeated exposure; No data available

Target Organs Eyes, Respiratory system, Skin, Gastrointestinal tract (GI).
(j) aspiration hazard; Not applicable

Solid

Other Adverse Effects The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information

Symptoms / effects, both acute and delayed Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity
Ecotoxicity effects Contains a substance which is: Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Fish</th>
<th>Water Flea</th>
<th>Freshwater Algae</th>
<th>Microtox</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, amorphous</td>
<td>LC50: 5000 mg/L/96 h</td>
<td>EC50: 7600 mg/L/48h</td>
<td>EC50: 440 mg/L/72h</td>
<td></td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>45.4 mg/L LC50 96 h</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

Persistence Insoluble in water.
Degradation in sewage treatment plant Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

12.3. Bioaccumulative potential May have some potential to bioaccumulate

12.4. Mobility in soil No information available. Is not likely mobile in the environment due its low water solubility.

12.5. Results of PBT and vPvB assessment No data available for assessment

12.6. Other adverse effects

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors
Persistent Organic Pollutant This product does not contain any known or suspected substance
Ozone Depletion Potential This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues / Unused Products Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of this container to hazardous or special waste collection point.
European Waste Catalogue (EWC)  According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

Other Information  Do not dispose of waste into sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Large amounts will affect pH and harm aquatic organisms.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number  UN1823
14.2. UN proper shipping name  SODIUM HYDROXIDE, SOLID
14.3. Transport hazard class(es)  8
14.4. Packing group  II

ADR

14.1. UN number  UN1823
14.2. UN proper shipping name  SODIUM HYDROXIDE, SOLID
14.3. Transport hazard class(es)  8
14.4. Packing group  II

IATA

14.1. UN number  UN1823
14.2. UN proper shipping name  SODIUM HYDROXIDE, SOLID
14.3. Transport hazard class(es)  8
14.4. Packing group  II

14.5. Environmental hazards  No hazards identified
14.6. Special precautions for user  No special precautions required
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code  Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

International Inventories  X = listed

<table>
<thead>
<tr>
<th>Component</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>PICCS</th>
<th>ENCS</th>
<th>CHINA</th>
<th>AICS</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ascarite</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Silica, amorphous</td>
<td>231-545-4</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>215-185-5</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
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<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

National Regulations

<table>
<thead>
<tr>
<th>Component</th>
<th>Germany - Water Classification (VwVwS)</th>
<th>Germany - TA-Luft Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, amorphous</td>
<td>nwg - nicht wassergefährdend (non-hazardous to waters)</td>
<td>WSG 1</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>France - INRS (Tables of occupational diseases)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, amorphous</td>
<td>Tableaux des maladies professionnelles (TMP) - RG 25</td>
</tr>
</tbody>
</table>

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment
15.2. Chemical safety assessment

Chemical Safety Assessment/Reports (CSA/CSR) are not required for mixtures.
This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer
The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of Safety Data Sheet