1. Identification

Product identifier
AFRL02; AFRL03

Recommended use of the chemical and restrictions on use
Use of the substance/mixture
test dust

Details of the supplier of the safety data sheet
Company name: Powder Technology Inc.
Street: 1300 Grey Fox Road
Place: USA-55112 Arden Hills, MN
Telephone: +1 952 894 -8737
e-mail: sales@powdertechnologyinc.com
Internet: http://www.powdertechnologyinc.com

Emergency phone number: +1 952 894 -8737

2. Hazard(s) identification

Classification of the chemical
29 CFR Part 1910.1200
Skin corrosion/irritation: Skin Irrit. 2
Serious eye damage/eye irritation: Eye Irrit. 2A
Carcinogenicity: Carc. 1A
Specific target organ toxicity repeated or prolonged exposure: STOT RE 1

Label elements
29 CFR Part 1910.1200
Signal word: Danger
Pictograms:

Hazard statements
Causes skin irritation
Causes serious eye irritation
May cause cancer
Causes damage to organs through prolonged or repeated exposure

Precautionary statements
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapors/spray.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin: Wash with plenty of soap and water.
Take off contaminated clothing and wash it before reuse.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists: Get medical advice/attention.
If exposed or concerned: Get medical advice/attention.
Store locked up.
Dispose of waste according to applicable legislation.
3. Composition/information on ingredients

Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Components</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>14808-60-7</td>
<td>silica (fine dust)</td>
<td>36.99 %</td>
</tr>
<tr>
<td>68476-25-5</td>
<td>Feldspar</td>
<td>15.3 %</td>
</tr>
</tbody>
</table>

4. First-aid measures

Description of first aid measures

General information
First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down.

After inhalation
Provide fresh air. Medical treatment necessary.

After contact with skin
After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. In case of skin reactions, consult a physician.

After contact with eyes
After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

After ingestion
Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Medical treatment necessary.

Most important symptoms and effects, both acute and delayed
No information available.

Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
Co-ordinate fire-fighting measures to the fire surroundings.

Specific hazards arising from the chemical
Non-flammable.

Special protective equipment and precautions for fire-fighters
Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information
Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Provide adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothes. Use personal protection equipment.
Environmental precautions
Do not allow to enter into surface water or drains.

Methods and material for containment and cleaning up
Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal.

Reference to other sections
Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

7. Handling and storage

Precautions for safe handling

Advice on safe handling
Provide adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

Advice on protection against fire and explosion
No special fire protection measures are necessary.

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations.

Advice on storage compatibility
No special measures are necessary.

8. Exposure controls/personal protection

Control parameters

Exposure limits

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>f/cc</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>13397-24-5</td>
<td>Calcium sulfate (inhalable fraction)</td>
<td>10</td>
<td></td>
<td></td>
<td>TWA (8 h)</td>
<td>ACGIH-2017</td>
</tr>
<tr>
<td>13397-24-5</td>
<td>Gypsum (resp)</td>
<td>-</td>
<td>5</td>
<td></td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td>13397-24-5</td>
<td>Gypsum (total)</td>
<td>-</td>
<td>10</td>
<td></td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td>13397-24-5</td>
<td>Gypsum Respirable fraction</td>
<td>-</td>
<td>5</td>
<td></td>
<td>TWA (8 h)</td>
<td>PEL</td>
</tr>
<tr>
<td>1317-65-3</td>
<td>Limestone (resp)</td>
<td>-</td>
<td>5</td>
<td></td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td>1317-65-3</td>
<td>Limestone (total)</td>
<td>-</td>
<td>10</td>
<td></td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td>1317-65-3</td>
<td>Limestone Respirable fraction</td>
<td>-</td>
<td>5</td>
<td></td>
<td>TWA (8 h)</td>
<td>PEL</td>
</tr>
<tr>
<td>1317-65-3</td>
<td>Limestone Total dust</td>
<td>-</td>
<td>15</td>
<td></td>
<td>TWA (8 h)</td>
<td>PEL</td>
</tr>
<tr>
<td>14808-60-7</td>
<td>Silica, crystalline (as respirable dust)</td>
<td>-</td>
<td>0.05</td>
<td></td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td>14808-60-7</td>
<td>Silica, crystalline - alpha-quartz (respirable fraction)</td>
<td>-</td>
<td>0.025</td>
<td></td>
<td>TWA (8 h)</td>
<td>ACGIH-2017</td>
</tr>
<tr>
<td>14808-60-7</td>
<td>Silica, crystalline quartz, respirable dust</td>
<td>(Z-3)</td>
<td>(Z-3)</td>
<td></td>
<td>TWA (8 h)</td>
<td>PEL</td>
</tr>
<tr>
<td>14808-60-7</td>
<td>Silica, crystalline quartz, total dust</td>
<td>-</td>
<td>(Z-3)</td>
<td></td>
<td>TWA (8 h)</td>
<td>PEL</td>
</tr>
</tbody>
</table>

Exposure controls

Appropriate engineering controls
Provide adequate ventilation as well as local exhaustion at critical locations.

Protective and hygiene measures
Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.
Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or
drink. Do not breathe dust.

**Eye/face protection**
Suitable eye protection: goggles.

**Hand protection**
Wear protective gloves.
The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working
place concentration and quantity of hazardous substances. For special purposes, it is recommended to check
the resistance to chemicals of the protective gloves mentioned above together with the supplier of these
gloves.

**Skin protection**
Wear suitable protective clothing.

**Respiratory protection**
In case of inadequate ventilation wear respiratory protection.

**Environmental exposure controls**
Do not allow to enter into surface water or drains.

### 9. Physical and chemical properties

#### Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>solid</td>
</tr>
<tr>
<td>Color</td>
<td>white - yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>characteristic</td>
</tr>
<tr>
<td>pH-Value</td>
<td>not determined</td>
</tr>
</tbody>
</table>

#### Changes in the physical state

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point/freezing point</td>
<td>not determined</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>not determined</td>
</tr>
<tr>
<td>Flash point</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

#### Flammability

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>not determined</td>
</tr>
<tr>
<td>Gas</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

#### Explosive properties

The product is not: Explosive.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower explosion limits</td>
<td>not determined</td>
</tr>
<tr>
<td>Upper explosion limits</td>
<td>not determined</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>not determined</td>
</tr>
</tbody>
</table>

#### Auto-ignition temperature

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>not determined</td>
</tr>
<tr>
<td>Gas</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

#### Decomposition temperature:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>not determined</td>
<td></td>
</tr>
</tbody>
</table>

#### Oxidizing properties

Not oxidising.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vapor pressure</td>
<td>not determined</td>
</tr>
<tr>
<td>Density</td>
<td>2.5 - 27 g/cm³</td>
</tr>
</tbody>
</table>

#### Solubility in other solvents

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>not determined</td>
<td>not determined</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition coefficient</td>
<td>not determined</td>
</tr>
</tbody>
</table>
Viscosity / dynamic: not determined
Viscosity / kinematic: not determined
Vapor density: not determined
Evaporation rate: not determined

Other information
Odour threshold: not determined

10. Stability and reactivity

Reactivity
No hazardous reaction when handled and stored according to provisions.

Chemical stability
Stability: Stable
The product is stable under storage at normal ambient temperatures.

Possibility of hazardous reactions
Hazardous reactions: Will not occur
No known hazardous reactions.

Conditions to avoid
No information available.

Incompatible materials
No information available.

Hazardous decomposition products
No known hazardous decomposition products.

11. Toxicological information

Information on toxicological effects
Route(s) of Entry
dermal, inhalative, Eye contact.

Acute toxicity
Based on available data, the classification criteria are not met.

Irritation and corrosivity
Causes skin irritation
Causes serious eye irritation

Sensitizing effects
Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction
May cause cancer (silica (fine dust))
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.

Specific target organ toxicity (STOT) - single exposure
Based on available data, the classification criteria are not met.

Specific target organ toxicity (STOT) - repeated exposure
Causes damage to organs through prolonged or repeated exposure (Feldspar)
Carcinogenicity (OSHA): No ingredient of this mixture is listed.
Carcinogenicity (IARC): Silica dust, crystalline, in the form of quartz or cristobalite (CAS 14808-60-7) is listed in group 1.
Carcinogenicity (NTP): No ingredient of this mixture is listed.
Aspiration hazard
Based on available data, the classification criteria are not met.

Additional information on tests
The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP]. Special hazards arising from the substance or mixture!

12. Ecological information

Ecotoxicity
The product is not: Ecotoxic.

Persistence and degradability
The product has not been tested.

Bioaccumulative potential
The product has not been tested.

Mobility in soil
The product has not been tested.

Other adverse effects
No information available.

Further information
Avoid release to the environment.

13. Disposal considerations

Waste treatment methods

Advice on disposal
Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

Contaminated packaging
Handle contaminated packages in the same way as the substance itself.

14. Transport information

US DOT 49 CFR 172.101

Proper shipping name:
No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

UN number:
No dangerous good in sense of this transport regulation.

UN proper shipping name:
No dangerous good in sense of this transport regulation.

Transport hazard class(es):
No dangerous good in sense of this transport regulation.

Packing group:
No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

UN number:
No dangerous good in sense of this transport regulation.

UN proper shipping name:
No dangerous good in sense of this transport regulation.

Transport hazard class(es):
No dangerous good in sense of this transport regulation.

Packing group:
No dangerous good in sense of this transport regulation.

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

Special precautions for user
No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable
15. Regulatory information

U.S. Regulations

National Inventory TSCA
- silica (fine dust): Yes.
- Feldspar: Yes.
- Gypsum: No.
- Limestone: Yes.

National regulatory information
- SARA Section 311/312 Hazards:
  - silica (fine dust) (14808-60-7): Delayed (chronic) health hazard
  - Feldspar (68476-25-5): Immediate (acute) health hazard, Delayed (chronic) health hazard

State Regulations

Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)
- This product contains no chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other information

Hazardous Materials Information Label (HMIS)
- Health: 2
- Flammability: 0
- Physical Hazard: 0

NFPA Hazard Ratings
- Health: 2
- Flammability: 0
- Reactivity: 0
- Unique Hazard: 0

Revision date: 11.04.2018
Revision No: 1,00

Abbreviations and acronyms
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonized System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service
- LC50: Lethal concentration, 50%
- LD50: Lethal dose, 50%

Other data
- The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor’s safety data sheet.)