1. Product and Company Identification

Material name: CLOISITE® NA+
Version #: 01
Revision date: Jul-18-2008
Manufacturer information: Southern Clay Products, Inc.
1212 Church Street
Gonzales, TX 78629 US
msdsinfo@scprod.com
www.scprod.com
Customer Service +1 (830) 672 - 2891
CHEMTREC (INTERNATIONAL) +1 (703) 527 - 3887
CHEMTREC (US) (800) 424 - 9300

Manufacturer information EU: Rockwood Additives
Moorfield Road, Widnes
WA8 3AA
United Kingdom
msdsinfo@rockwoodadditives.com
Customer Service +44 (0)151 495-9871
Emergency Number +49 (0) 6132 - 84463

Product Use: Cloisite® products are used as plastics additives.

2. Hazards Identification

Emergency overview:
Material can be slippery when wet. Cancer hazard. Prolonged exposure may cause chronic effects.

Potential health effects:
Inhalation. Eye contact.

Routes of exposure:
Inhalation: Inhalation of dusts may cause respiratory irritation. May cause cancer by inhalation. Avoid breathing dust/fume/gas/mist/vapors/spray. Repeated or prolonged inhalation may cause toxic effects. For additional information on inhalation hazards, see Section 11 of this safety data sheet.

Ingestion:
Do not ingest.

Chronic effects:
This product has the potential for generation of respirable dust during handling and use. Dust may contain respirable crystalline silica. Overexposure to dust may result in pneumoconiosis, a respiratory disease caused by inhalation of mineral dust, which can lead to fibrotic changes to the lung tissue, or silicosis, a respiratory disease caused by inhalation of silica dust, which can lead to inflammation and fibrosis of the lung tissue. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz</td>
<td>14808-60-7</td>
<td>0.1 - 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-hazardous components</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bentonite</td>
<td>1302-78-9</td>
<td>99 - 100</td>
</tr>
</tbody>
</table>

4. First Aid Measures

First aid procedures:

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if symptoms occur.

Skin contact: Remove and isolate contaminated clothing and shoes. Wash off with warm water and soap. For minor skin contact, avoid spreading material on unaffected skin. Get medical attention if symptoms occur.

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician if symptoms develop or persist.
Ingestion
Rinse mouth. Do not induce vomiting without advice from poison control center. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If ingestion of a large amount does occur, call a poison control center immediately.

5. Fire Fighting Measures

Flammable properties
Not a fire hazard. The product is not flammable.

Extinguishing media
Suitable extinguishing media
Water.

Protection of firefighters
Specific hazards arising from the chemical
Material can be slippery when wet

Protective equipment and precautions for firefighters
Use water spray to cool unopened containers. Cool containers with flooding quantities of water until well after fire is out.

Specific methods
In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

6. Accidental Release Measures

Personal precautions
Local authorities should be advised if significant spillages cannot be contained. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unnecessary personnel away. Stay upwind. Keep out of low areas. Avoid inhalation of dust from the spilled material. Wear a dust mask if dust is generated above exposure limits. Material can be slippery when wet.

Environmental precautions
Do not flush into surface water. Do not let product enter drains. Prevent further leakage or spillage if safe to do so. Do not contaminate water.

Methods for containment
Prevent entry into waterways, sewers, basements or confined areas. Avoid allowing water runoff to contact spilled material. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Contaminated surfaces will be extremely slippery.

Methods for cleaning up
Should not be released into the environment. Sweep up or gather material and place in appropriate container for disposal. Collect dust or particulates using a vacuum cleaner with a HEPA filter. Avoid dust formation. After removal flush contaminated area thoroughly with water.

7. Handling and Storage

Handling
Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust from this material. Avoid contact with skin. Avoid contact with eyes. In case of insufficient ventilation, wear suitable respiratory equipment. Wear personal protective equipment. Avoid prolonged exposure. Wash thoroughly after handling. Avoid release to the environment. Handle and open container with care.

Storage
Guard against dust accumulation of this material. Keep in a well-ventilated place. Keep container tightly closed. Keep out of the reach of children. Use care in handling/storage.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH
Components | Type | Value | Form
---|---|---|---
Quartz (14808-60-7) | TWA | 0.025 mg/m³ | Respirable fraction.

Additional components
Components | Type | Value | Form
---|---|---|---
Nuisance Particulates (seq250) | TWA | 3 mg/m³ | Respirable particles.
10 mg/m³ | Inhalable particles.

U.S. - OSHA
Components | Type | Value | Form
---|---|---|---
Quartz (14808-60-7) | TWA | 0.1 mg/m³ | Respirable dust.
0.3 mg/m³ | Total dust.

Additional components
Components | Type | Value | Form
---|---|---|---
Nuisance Particulates (seq250) | PEL | 5 mg/m³ | Respirable fraction.
### Exposure guidelines

Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

### Engineering controls

Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL, suitable respiratory protection must be worn.

### Personal protective equipment

- **Eye / face protection**
  - Wear safety glasses with side shields.

- **Skin protection**
  - Protective gloves.

- **Respiratory protection**
  - Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit. If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

- **General hygine considerations**
  - Do not breathe dust. Avoid contact with eyes. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

### 9. Physical & Chemical Properties

#### Physical state

- Solid.

#### Form

- Powder.

#### Color

- Off-white.

#### Odor

- Odorless.

#### pH

- 9, 2% aqueous dispersion

#### Melting point

- Not available.

#### Freezing point

- Not applicable

#### Boiling point

- Not applicable

#### Flash point

- Not applicable

#### Flammability limits in air, upper, % by volume

- Not applicable

#### Flammability limits in air, lower, % by volume

- Not applicable

#### Vapor pressure

- Not available.

#### Vapor density

- Not available.

#### Specific gravity

- 2.8 - 2.9

#### Relative density

- Not available.

#### Solubility (water)

- Not available.

#### Decomposition temperature

- Not available.

#### Percent volatile

- 0 % estimated

### 10. Chemical Stability & Reactivity Information

#### Chemical stability

- Stable at normal conditions.

#### Incompatible materials

- None known.

#### Hazardous decomposition products

- No hazardous decomposition products are known.
11. Toxicological Information

**Chronic effects**
Hazardous by OSHA criteria. Prolonged exposure may cause chronic effects. According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled. In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003)

**Carcinogenicity**
Hazardous by OSHA criteria. Cancer hazard. Risk of cancer cannot be excluded with prolonged exposure.

- IARC Monographs on Occupational Exposures to Chemical Agents: Overall evaluation
  Quartz (14808-60-7) 1 Human carcinogen.
- US ACGIH Threshold Limit Values: A2 carcinogen
  Quartz (14808-60-7) Group A2 Suspected human carcinogen.
- US NTP Report on Carcinogens: Known carcinogen
  Quartz (14808-60-7) Known carcinogen.

12. Ecological Information

**Ecotoxicological data**

<table>
<thead>
<tr>
<th>Product</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLOISITE® NA+</td>
<td>LC50 Fish: 19095 mg/l 96.00 Hours estimated</td>
</tr>
<tr>
<td>Components</td>
<td>Test Results</td>
</tr>
<tr>
<td>Bentonite (1302-78-9)</td>
<td>LC50 Rainbow trout, donaldson trout (Oncorhynchus mykiss): 19000 mg/l 96.00 Hours</td>
</tr>
</tbody>
</table>

* Estimates for product may be based on additional component data not shown.

**Environmental effects**
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

**Persistence and degradability**
The methods for determining the biological degradability are not applicable to inorganic substances.

13. Disposal Considerations

**Disposal instructions**
Do not allow this material to drain into sewers/water supplies. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations.

**Waste from residues / unused products**
Not applicable.

14. Transport Information

**DOT**
Not regulated as dangerous goods.

15. Regulatory Information

**US federal regulations**
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.
Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
- Immediate Hazard - No
- Delayed Hazard - Yes
- Fire Hazard - No
- Pressure Hazard - No
- Reactivity Hazard - No

Section 302 extremely hazardous substance
No

Section 311 hazardous chemical
Yes

Inventory status

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of New and Existing Chemicals (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
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<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations
- WARNING: This product contains a chemical known to the State of California to cause cancer.

16. Other Information

Recommended restrictions
Workers (and your customers or users in the case of resale) should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.

Further information
HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings
- Health: 1*
- Flammability: 0
- Physical hazard: 0

NFPA ratings
- Health: 1
- Flammability: 0
- Instability: 0

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Issue date
Jul-18-2008

Material name: CLOISITE® NA+