1. Product and company identification

Product name: PYRAX® ABB
Supplier/Manufacturer: Vanderbilt Minerals, LLC
30 Winfield Street
Norwalk, CT 06855

Synonym: Pyrophyllite
Chemical Name: Hydrated aluminum silicate mineral

Material uses: Additive/filler ceramics, paint, etc.
RTV Material #: 32805

2. Hazards identification

Emergency Overview:
WARNING! Cancer Hazard. Contains quartz which can cause cancer. Risk of cancer depends upon duration and level of exposure. Not an acute hazard. May cause mechanical eye or skin irritation in high concentrations. Prolonged inhalation may cause lung injury.

Routes of Entry: Ingestion. Inhalation.

Potential acute health effects:

- Inhalation: Inhalation of high concentrations may cause mechanical irritation and discomfort. Repeated exposure may cause chronic effects.
- Ingestion: Not an ingestion hazard.
- Skin: Possible mechanical skin irritation. Not absorbed through skin. Possible granuloma formation in open wounds (requires repeated, massive applications).
- Eyes: May cause mechanical irritation.
- Remarks: No additional remark.

Potential chronic health effects:

Target organs: Pulmonary System (chronic risk).

See toxicological information (Section 11)

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS number</th>
<th>% by weight</th>
<th>TLV/PEL</th>
</tr>
</thead>
</table>
| quartz  | 14808-60-7 | 50 - 60     | OSHA PEL (United States).  
TWA respirable fraction formula: 10 mg/m³/ % SiO₂ +2  
ACGIH TLV (United States).  
TWA 0.025 mg/m³ from respirable fraction |
| pyrophyllite | 12269-78-2 | <40         | OSHA PEL (United States).  
TWA: 15 mg/m³ total dust; 5 mg/m³ respirable dust (PNOR)  
ACGIH TLV (United States).  
TWA: 10 mg/m³ total dust; 3 mg/m³ respirable dust (PNOS) |
| mica    | 12001-26-2 | 18 - 25     | OSHA PEL (United States).  
TWA 3 mg/m³ from respirable fraction  
ACGIH TLV (United States).  
TWA 3 mg/m³ from respirable fraction |

www.Lagunaclay.com  800-452-4862  info@lagunaclay.com
3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>OSHA PEL (United States)</th>
<th>ACGIH TLV (United States)</th>
</tr>
</thead>
<tbody>
<tr>
<td>kaolin clay</td>
<td>1332-58-7</td>
<td>TWA 5 mg/m³ from respirable fraction</td>
<td>TWA 2 mg/m³ from respirable fraction</td>
</tr>
</tbody>
</table>

4. First aid measures

**Eye contact**
Flush with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids.

**Skin contact**
Wash off with water.

**Inhalation**
Allow the victim to rest in a well ventilated area if high concentration is inhaled and mechanical irritation or discomfort occurs. Seek medical attention if irritation persists.

**Ingestion**
Unlikely to be toxic by ingestion.

5. Fire-fighting measures

**Flammability of the product**
Non-flammable.

**Flash point**
Not applicable.

**Auto-ignition temperature**
Not applicable.

**Flammable limits**
Not applicable.

**Hazardous combustion products**
Not applicable.

**Fire hazards in the presence of various substances**
Not considered to be flammable. Product will not burn, use appropriate extinguishing media for surrounding fires.

6. Accidental release measures

**Small spill**
Use a vacuum to clean up spillage. If appropriate, use gentle water spray to wet down and minimize dust generation. Place in a sealed container. Material will become slippery when wet.

**Large spill**
Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminant surface and dispose of according to local and regional authority requirements. Avoid excessive dust generation. Use respiratory protection in high dust condition.

7. Handling and storage

**Handling and storage**
Avoid generating dust. Use respiratory protection in the absence of adequate engineering controls. Keep containers closed when not in use. Clean up spills promptly (see spill procedure). No special storage considerations. Handle in ways which minimize dust generation.

8. Exposure controls/personal protection

**Engineering measures**
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below established levels below recommended exposure limits. If user operations generate dust, use ventilation to keep exposure to airborne contaminants below the exposure limit.

If local exhaust ventilation is used, a capture velocity of 150-200 fpm is recommended.

**Personal protection**
Splash goggles. Dust respirator. Be sure to use a MSHA/NIOSH approved respirator or equivalent. No special skin protection should be required. However, if irritation is experienced, use gloves and/or other skin covering.

**Personal protective equipment (Pictograms)**
9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid. [Powdered solid.]</td>
</tr>
<tr>
<td>Color</td>
<td>White to tan</td>
</tr>
<tr>
<td>Odor</td>
<td>None known</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>Not applicable</td>
</tr>
<tr>
<td>pH</td>
<td>6.9 [Conc. (% w/w): 10%]</td>
</tr>
<tr>
<td>Boiling/condensation point</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting/freezing point</td>
<td>Not available</td>
</tr>
<tr>
<td>Specific gravity</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available</td>
</tr>
<tr>
<td>Volatility</td>
<td>0% (v/v)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Dispersibility properties</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in the following materials: cold water.</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>The product is stable.</td>
</tr>
<tr>
<td>Instability temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Conditions of instability</td>
<td>Not available</td>
</tr>
<tr>
<td>Incompatibility with various substances</td>
<td>No incompatible product according to our database.</td>
</tr>
<tr>
<td>Corrosivity</td>
<td>Not available</td>
</tr>
</tbody>
</table>

11. Toxicological information

Acute effects

See Hazards Identification (section 2)

Chronic effects

Carcinogenic effects

Mutagenic effects

Teratogenic effects

Developmental toxicity

Conclusion/Summary

PYROPHYLLITE: In the absence of crystalline silica, pyrophyllite can cause a low category pneumoconiosis (with little respiratory disability) in prolonged, high dust concentrations.

KAOLIN: Published literature suggests that extremely high exposures to kaolin dust over a prolonged period of time can lead to a low category pneumoconiosis (with little respiratory disability) in a small number of workers.

CRYSTALLINE SILICA: Overexposure to respirable crystalline silica dust can cause silicosis, a form of progressive pulmonary fibrosis. "Inhalable" crystalline silica (quartz) is listed by IARC as a Group I carcinogen (lung) based on "sufficient evidence" in occupationally exposed humans and sufficient evidence in animals. Crystalline silica is also listed by the NTP as a known human carcinogen. Some studies have not demonstrated a cancer association and controversy exists concerning the IARC and NTP.
11. Toxicological information

Excessive exposure to any dust may aggravate pre-existing respiratory conditions.

<table>
<thead>
<tr>
<th>Classification</th>
<th>ACGIH</th>
<th>IARC</th>
<th>EPA</th>
<th>NIOSH</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>quartz</td>
<td>A2</td>
<td>1</td>
<td>-</td>
<td>+</td>
<td>Proven.</td>
<td>-</td>
</tr>
<tr>
<td>kaolin clay</td>
<td>A4</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

12. Ecological information

| Ecotoxicity              | None known. |
| Products of biodegradation | None known. |
| Toxicity of the products of biodegradation | None known. |
| Special remarks on the products of biodegradation | Not available. |

13. Disposal considerations

Waste information
Not a US RCRA hazardous waste. Dispose of in accordance with state and local regulations.

14. Transport information

<table>
<thead>
<tr>
<th>Regulatory information</th>
<th>UN number</th>
<th>Proper shipping name</th>
<th>Classes</th>
<th>PG*</th>
<th>Label</th>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT Classification</td>
<td>Not regulated.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TDG Classification</td>
<td>Not regulated.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>ADR/RID Class</td>
<td>Not regulated.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>IMDG Class</td>
<td>Not regulated.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>IATA-DGR Class</td>
<td>Not regulated.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

15. Regulatory information

United States
OSHA/HCS status
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

U.S. Federal regulations
United States inventory (TSCA 8b): All components are listed or exempted.
SARA 302/304/311/312 hazardous chemicals: Quartz (SiO2); MICA; KAOLIN
SARA 311/312 MSDS distribution - chemical inventory - hazard identification:
Quartz (SiO2): Immediate (acute) health hazard, Delayed (chronic) health hazard; MICA: Immediate (acute) health hazard; KAOLIN: Delayed (chronic) health hazard

State regulations
Massachusetts Substances
The following components are listed: SILICA, CRYSTALLINE, QUARTZ; MICA; KAOLIN

Minnesota Hazardous Substances
The following components are listed: KAOLIN

New Jersey Hazardous Substances
The following components are listed: SILICA, QUARTZ; MICA
15. Regulatory information

Pennsylvania RTK Hazardous Substances

The following components are listed: QUARTZ (SiO2); KAOLIN

California Prop. 65

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

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Cancer</th>
<th>Reproductive</th>
<th>No significant risk level</th>
<th>Maximum acceptable dosage level</th>
</tr>
</thead>
<tbody>
<tr>
<td>quartz</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Canada inventory

All components are listed or exempted.

Europe inventory

All components are listed or exempted.

International lists

Australia inventory (AICS): All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.

16. Other information

Other special considerations

Airborne sampling for respirable quartz during mining, processing and bagging of this product routinely reflects concentrations ranging from below detection limit to 0.1 mg/m³ over an 8 hour work shift. Levels at and below 0.05 mg/m³ are typical. Use of this product is unlikely to produce respirable quartz concentrations above these levels.

Hazardous Material Information System (U.S.A.)

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>* 1</td>
<td>0</td>
<td>0</td>
<td>E</td>
</tr>
</tbody>
</table>

National Fire Protection Association (U.S.A.)

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The customer is responsible for determining the PPE code for this material.

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Date of issue: 1/1/2013.
Date of previous issue: No previous validation.
Information contact: Corporate Risk Management
1-203-295-2143

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