SAFETY DATA SHEET

SECTION 1 : IDENTIFICATION

Product identifier used on the label:
Product Name: Abrasive Product

Other means of identification:

Recommended use of the chemical and restrictions on use:

Chemical manufacturer address and telephone number:
Manufacturer Name: Saint-Gobain Abrasives, Inc.
Address: 1 New Bond Street
          Worcester, MA 01615
Website: www.nortonabrasives.com
General Phone Number: 508-795-5000

Emergency Phone Number:
Emergency Phone Number: 508-795-5000

SECTION 2 : HAZARD(S) IDENTIFICATION

Classification of the chemical in accordance with CFR 1910.1200(d)(f):

Hazards not otherwise classified that have been identified during the classification process:

Potential Health Effects:
Eye: Dust may cause slight irritation.
Skin: Dust from this product may cause temporary mechanical irritation.
Inhalation: Dusts from this product may cause mechanical irritation of the nose, throat and respiratory tract.
Ingestion: Ingestion of this product is unlikely. However, ingestion of product may produce gastrointestinal irritation and disturbances.
Chronic Health Effects: Chronic health effects are not expected as long as good hygiene and proper safety precautions are practiced.

Phenol formaldehyde polymer

Chronic Health Effects: Dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

Fiberglass

Inhalation: Fiberglass contained in wheels have fiber diameters greater than 10 um, therefore considered non-respirable.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS#</th>
<th>Ingredient Percent</th>
<th>EC Num.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium carbonate</td>
<td>1317-65-3</td>
<td>5 - 10 by weight</td>
<td>215-279-6</td>
</tr>
<tr>
<td>Crystalline Silica, Quartz</td>
<td>14808-60-7</td>
<td>0.1 - 1 by weight</td>
<td>238-878-4</td>
</tr>
<tr>
<td>Phenol formaldehyde polymer</td>
<td>9003-35-4</td>
<td>10 - 30 by weight</td>
<td></td>
</tr>
<tr>
<td>Zirconium dioxide</td>
<td>1314-23-4</td>
<td>10 - 30 by weight</td>
<td>215-227-2</td>
</tr>
</tbody>
</table>
SECTION 4 : FIRST AID MEASURES

Description of necessary measures:

Eye Contact: Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get medical attention, if irritation or symptoms of overexposure persists.

Skin Contact: Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.

Inhalation: If dust from cutting or drilling is inhaled, remove the affected person to fresh air. If symptoms persist, get medical attention.

Ingestion: Accidental ingestion of this material is unlikely. If this does occur, watch person for several days to make sure intestinal blockage does not occur. If symptoms persist, call a physician.

Indication of immediate medical attention and special treatment needed:

Note to Physicians: No information available.

SECTION 5 : FIRE FIGHTING MEASURES

Suitable and unsuitable extinguishing media:

Suitable Extinguishing Media: Use any extinguishing media appropriate for the surrounding fires.

Unsuitable extinguishing media: None.

Special protective equipment and precautions for fire-fighters:

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

NFPA Ratings:

NFPA Health: 0
NFPA Flammability: 0
NFPA Reactivity: 1
NFPA Other: 0

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and cleaning up:

Methods for containment: Containment of this material should not be necessary.

Methods for cleanup: Shovel or sweep up for re-use or disposal. Avoid creating dusty conditions. Evaluate residue to determine if it is a hazardous waste by characteristic. Dispose of in accordance with Local, State, Federal and Provincial regulations.

SECTION 7 : HANDLING and STORAGE

Precautions for safe handling:

Handling: Always HANDLE AND STORE wheels in a CAREFUL manner. Always VISUALLY INSPECT all wheels before mounting. Always CHECK MACHINESpeed against the established maximum safe operating speed MARKED ON THE WHEEL. Always CHECK MOUNTING FLANGES for equal and correct diameter. Always USE MOUNTING BLOTTERS. Always be sure WORK REST is properly adjusted. Always USE A SAFETY GUARD covering at least one-half of the grinding wheel. Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding. Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel.

Hygiene Practices: Wear suitable gloves and eye/face protection.

Conditions for safe storage, including any incompatibilities:

Storage: No special storage conditions required.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION
EXPOSURE GUIDELINES:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Guideline OSHA</th>
<th>Guideline NIOSH</th>
<th>Guideline ACGIH</th>
<th>Quebec Canada</th>
<th>Ontario Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium carbonate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>VEMP-TWA: 10 mg/m³ Total particulate/dust (T)</td>
</tr>
<tr>
<td>Crystalline Silica, Quartz</td>
<td></td>
<td>TLV-TWA: 0.025 mg/m³ Respirable fraction (R)</td>
<td>VEMP-TWA: 0.1 mg/m³ Respirable fraction (R)</td>
<td></td>
<td>OEL-TWA EV: 0.05 mg/m³ Respirable fraction (R)</td>
</tr>
<tr>
<td>Zirconium dioxide</td>
<td></td>
<td>TLV-TWA: 10 mg/m³</td>
<td></td>
<td></td>
<td>OEL-TWA: 10 mg/m³ Total particulate/dust (T)</td>
</tr>
<tr>
<td>Inorganic fluorides</td>
<td>PEL-TWA 2.5 mg/m³</td>
<td>REL-TWA 2.5 mg/m³</td>
<td>TLV-TWA 2.5 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiberglass</td>
<td>PEL-TWA: 1 f/cc as Continuous filament glass</td>
<td>TLV-TWA: 1 f/cc as Continuous filament glass</td>
<td>TLV-TWA: 5 mg/m³ as Continuous filament glass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminum Oxide, Non-fibrous</td>
<td>PEL-TWA: 5 mg/m³ Respirable fraction (R) PEL-TWA: 15 mg/m³ Total particulate/dust (T)</td>
<td>TLV-TWA: 10 mg/m³</td>
<td>VEMP-TWA: 10 mg/m³ Total particulate/dust (T)</td>
<td>OEL-TWA: 10 mg/m³ Total particulate/dust (T)</td>
<td></td>
</tr>
</tbody>
</table>

Ingredient | Alberta Canada | Mexico | British Columbia Canada |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium carbonate</td>
<td>OEL-TWA: 10 mg/m³</td>
<td>OEL-TWA: 10 mg/m³ Total particulate/dust (T)</td>
<td>OEL-TWA: 10 mg/m³ Total particulate/dust (T)</td>
</tr>
<tr>
<td>Crystalline Silica, Quartz</td>
<td>OEL-TWA: 0.1 mg/m³ Respirable fraction (R)</td>
<td>LMPE-PPT: 0.1 mg/m³ Respirable fraction (R)</td>
<td>OEL-TWA: 0.025 mg/m³ Respirable fraction (R)</td>
</tr>
<tr>
<td>Aluminum Oxide, Non-fibrous</td>
<td>OEL-TWA: 10 mg/m³</td>
<td>MPE-PPT: 0.1 mg/m³ Respirable fraction (R)</td>
<td>OEL-TWA: 3 mg/m³ Respirable fraction (R) OEL-TWA: 10 mg/m³ Total particulate/dust (T) OEL-STEL: 20 mg/m³ Total particulate/dust (T)</td>
</tr>
</tbody>
</table>

Appropriate engineering controls:

Engineering Controls: General dilution ventilation and/or local exhaust ventilation should be provided as necessary to maintain exposures below occupational exposure limits.

Individual protection measures:

Eye/Face Protection: Always WEAR SAFETY GLASSES or some type of eye protection when grinding.

Skin Protection Description: Protective gloves. Long sleeved shirt and long pants.

Respiratory Protection: When workers are facing airborne particulate/dust concentrations above the exposure limit they must use appropriate certified respirators. A properly fitted NIOSH approved disposable N 95 type dust respirator or better is recommended.

Other Protective: Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

General Hygiene Considerations: Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Avoid getting dust into boots and gloves through wrist bands and pant tucks.

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES:

Physical State Appearance: Solid article.

Odor: Odorless.

Flash Point: Does not apply.

Lower Flammable/Explosive Limit: Not available.

Upper Flammable/Explosive Limit: Not available.

Auto Ignition Temperature: Not determined.

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability: Stable under normal conditions.

Possibility of hazardous reactions: Hazardous polymerization does not occur.

Hazardous Decomposition Products: In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce...
SECTION 11 : TOXICOLOGICAL INFORMATION

**TOXICOLOGICAL INFORMATION:**

**Acute Toxicity:**
This product has not been tested for its toxicity.

<table>
<thead>
<tr>
<th>Carcinogens:</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA</th>
<th>IARC</th>
<th>NTP</th>
<th>MEXICO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum Oxide, Non-fibrous</td>
<td>A4 Not Classifiable as a Human Carcinogen</td>
<td>No Data</td>
<td>No Data</td>
<td>No Data</td>
<td>No Data</td>
<td>A4 Not Classifiable as a Human Carcinogen</td>
</tr>
</tbody>
</table>

**Calcium carbonate:**
RTECS Number: EV9580000

**Crystalline Silica, Quartz:**
RTECS Number: VV7330000

**Phenol formaldehyde polymer:**
RTECS Number: SM8542500

**Skin:**
Administration onto the skin - Rat LD50: >2 gm/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

**Ingestion:**
Oral - Rat LD50: >5 gm/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

**Zirconium dioxide:**
RTECS Number: ZH8800000

**Fiberglass:**
RTECS Number: LK3651000

**Aluminum Oxide, Non-fibrous:**
RTECS Number: BD1200000

**Inhalation:**
Inhalation - Rat TCLo: 200 mg/m3/5H/28W (Intermittent) [Lungs, Thorax, or Respiration - Structural or functional change in trachea or bronchi; Lungs, Thorax, or Respiration - Chronic pulmonary edema; Related to Chronic Data - death] (RTECS)

SECTION 12 : ECOLOGICAL INFORMATION

**Persistence and degradability:**
Biodegradation: Vitrified products do not appreciably decay.

SECTION 13 : DISPOSAL CONSIDERATIONS

**Description of waste:**
Waste Disposal: Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.

SECTION 14 : TRANSPORT INFORMATION

**DOT Shipping Name:** Not regulated as hazardous material for transportation.

**DOT UN Number:** Not regulated as hazardous material for transportation.

**IATA Shipping Name:** Not regulated as hazardous material for transportation.

**Canadian Shipping Name:** This product is Not Regulated under the Transportation of Dangerous Goods Act. (CAN).

SECTION 15 : REGULATORY INFORMATION

**Safety, health and environmental regulations specific for the product:**

**Calcium carbonate:**
TSCA Inventory Status: Listed
Massachusetts: Listed
Pennsylvania: Listed
Canada NDSL: Listed
EM Number: 215-279-6

**Crystalline Silica, Quartz:**
- TSCA Inventory Status: Listed
- Massachusetts: Listed
- Pennsylvania: Listed
- Canada DSL: Listed
- Canada IDL: Identified under the Canadian Hazardous Products Act Ingredient Disclosure List: 0.1%.1406(1491)

EC Number: 238-878-4

**Phenol formaldehyde polymer:**
- TSCA Inventory Status: Listed
- Canada DSL: Listed

**Zirconium dioxide:**
- TSCA Inventory Status: Listed
- Massachusetts: Listed
- Canada DSL: Listed
- EC Number: 215-227-2

**Fiberglass:**
- TSCA Inventory Status: Listed
- Canada DSL: Listed

**Aluminum Oxide, Non-fibrous:**
- TSCA Inventory Status: Listed
- EINECS Number: 262-373-8
- Japan ENCS: (1) -23
- New Jersey: Listed: NJ Hazardous List; Substance Number: 2891
- Massachusetts: Listed
- Pennsylvania: Listed
- Minnesota: Listed
- Illinois: No Data
- Rhode Island: Listed
- Canada DSL: Listed
- Canada IDL: Identified under the Canadian Hazardous Products Act Ingredient Disclosure List: 0.1%.50(1298)
- EC Number: 215-691-6
- South Korea KECL: KE-01012
- Australia AICS: Listed

SECTION 16 : ADDITIONAL INFORMATION

**HMIS Ratings:**
- HMIS Health Hazard: 1
- HMIS Fire Hazard: 0
- HMIS Reactivity: 1
- HMIS Personal Protection: X

SDS Creation Date: August 15, 2009
SDS Revision Date: July 01, 2013

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