SAFETY DATA SHEET

SECTION 1 : IDENTIFICATION

Product Name: Vitrified Abrasive Product
SDS Manufacturer Number: 983468_BA_Vit
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: 508-795-5000
SDS Creation Date: June 17, 2011
SDS Revision Date: July 01, 2013
(M)SDS Format: NFPA

SECTION 2 : HAZARD(S) IDENTIFICATION

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:
May affect breathing capacity.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS#</th>
<th>Ingredient Percent</th>
<th>EC Num.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum Oxide, Non-fibrous</td>
<td>1344-28-1</td>
<td>60 - 100 by weight</td>
<td>215-691-6</td>
</tr>
<tr>
<td>Amorphous Silica, Fused</td>
<td>60676-86-0</td>
<td>10 - 30 by weight</td>
<td>262-373-8</td>
</tr>
</tbody>
</table>

SECTION 4 : FIRST AID 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.

Note to Physicians:
No information available.

SECTION 5 : FIRE FIGHTING MEASURES

Flammable Properties: Non Flammable.
Flash Point: Does not apply.
Auto Ignition Temperature: Not determined.
Lower Flammable/Explosive Limit: Not available.
Upper Flammable/Explosive Limit: Not available.
Extinguishing Media: Use any extinguishing media appropriate for the surrounding fires.
Unsuitable Media: None.
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:

SECTION 6 : ACCIDENTAL RELEASE MEASURES
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
Handling:
- Always HANDLE AND STORE wheels in a CAREFUL manner.
- Always VISUALLY INSPECT all wheels before mounting.
- Always CHECK MACHINE SPEED 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.
Storage: No special storage conditions required.
Hygiene Practices: Wear suitable gloves and eye/face protection.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION
Engineering Controls: General dilution ventilation and/or local exhaust ventilation should be provided as necessary to maintain exposures below occupational exposure limits.
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).

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>Aluminum Oxide, Non-fibrous</td>
<td>PEL-TWA: 5 mg/m³</td>
<td>REL-TWA: 0.05 mg/m³</td>
<td>VEMP-TWA: 10 mg/m³</td>
<td>OEL-TWA: 10 mg/m³</td>
<td>OEL-TWA: 10 mg/m³</td>
</tr>
<tr>
<td></td>
<td>PEL-TWA: 15 mg/m³</td>
<td>REL-TWA: 0.1 mg/m³</td>
<td>VEMP-TWA: 10 mg/m³</td>
<td>OEL-TWA: 10 mg/m³</td>
<td>OEL-TWA: 10 mg/m³</td>
</tr>
<tr>
<td>Amorphous Silica, Fused</td>
<td>OSHA PEL-TWA: 0.1 mg/m³</td>
<td>REL-TWA: 0.05 mg/m³</td>
<td>VEMP-TWA: 0.1 mg/m³</td>
<td>OEL-TWA: 0.1 mg/m³</td>
<td>OEL-TWA: 0.1 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH TLV-TWA: 0.1 mg/m³</td>
<td>VEMP-TWA: 0.1 mg/m³</td>
<td>OEL-TWA: 0.1 mg/m³</td>
<td>OEL-TWA: 0.1 mg/m³</td>
</tr>
<tr>
<td>Ingredient</td>
<td>Alberta Canada</td>
<td>Mexico</td>
<td>British Columbia Canada</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminum Oxide, Non-fibrous</td>
<td>OEL-TWA: 10 mg/m³</td>
<td>VEMP-TWA: 10 mg/m³</td>
<td>OEL-TWA: 3 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LMPE-PPT: 10 mg/m³</td>
<td>OEL-TWA: 10 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amorphous Silica, Fused</td>
<td>OEL-TWA: 0.1 mg/m³</td>
<td>VEMP-TWA: 0.1 mg/m³</td>
<td>OEL-TWA: 10 mg/m³</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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UPC Number: 61463649726 983468_BA_Vlt
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SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance: Solid article.
Odor: Odorless.
Flash Point: Does not apply.
Auto Ignition Temperature: Not determined.

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability: Stable under normal conditions.
Hazardous Polymerization: Hazardous polymerization does not occur.
Special 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 other decomposition products.

SECTION 11 : 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>
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<td>A4 Not Classifiable as a Human Carcinogen</td>
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<tr>
<td>Amorphous Silica, Fused</td>
<td>No Data</td>
<td>NIOSH carcinogen</td>
<td>No Data</td>
<td>No Data</td>
<td>No Data</td>
<td>No Data</td>
</tr>
</tbody>
</table>

**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)

**Amorphous Silica, Fused**

RTECS Number: "VV7328000"
Inhalation: Inhalation - Rat TCLo: 197 mg/m3/6H/26W (Intermittent) [Lungs, Thorax, or Respiration - Changes in lung weight] (RTECS)

SECTION 12 : ECOLOGICAL INFORMATION

Biodegradation: No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

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

**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

**Amorphous Silica, Fused:**

TSCA Inventory Status: Listed
EINECS Number: 262-373-8
Massachusetts: Listed
Rhode Island: Listed
Canada DSL: Listed
Canada IDL: Identified under the Canadian Hazardous Products Act Ingredient Disclosure List: 0.1%.1404(1487)
EC Number: 262-373-8

**SECTION 16 : ADDITIONAL INFORMATION**

HMIS Health Hazard: 1
HMIS Fire Hazard: 0
HMIS Reactivity: 1
HMIS Personal Protection: X
MSDS Creation Date: June 17, 2011
MSDS Revision Date: July 01, 2013
SDS Format:

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