SAINT-GOBAIN

SECTION 1 : PRODUCT AND COMPANY IDENTIFICATION

Product Name: MSDS Manufacturer Number: 983593_BA_Vit Address:

General Phone Number: 508-795-5000 Emergency Phone Number: 508-795-5000 Website: MSDS Creation Date: MSDS Creation Date: December 15, MSDS Revision Date: July 01, 2013 (M)SDS Format:

Vitrified Abrasive Product Manufacturer Name: Saint-Gobain Abrasives, Inc. 1 New Bond Street Worcester, MA 01615 www.Nortonabrasives.com December 15, 2010



SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS# | Ingredient Percent | EC Num. |
|-------------------------|------------|--------------------|-----------|
| Silicon carbide | 409-21-2 | 60 - 100 by weight | 206-991-8 |
| Amorphous Silica, Fused | 60676-86-0 | 10 - 30 by weight | 262-373-8 |

SECTION 3 : HAZARDS 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 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. | | | |

| - | |
|--------------------|--|
| 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 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 USE A SAFETY GUARD covering at least one-half of the grinding wheel. Always USE A SAFETY GUARD 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 - EXPOSURE GUIDELINES

| 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). |
| 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. |

EXPOSURE GUIDELINES

SECTION 7 : HANDLING and STORAGE

| Ingredient | Guideline OSHA | Guideline NIOSH | Guideline ACGIH | Quebec Canada | Ontario Canada |
|----------------------------|---|---|--|---|---|
| Silicon carbide | PEL-TWA: 15 mg/m3 Total particulate/dust (T) PEL-TWA: 5 mg/m3 Respirable fraction (R) | | TLV-TWA: 10 mg/m3 Inhalable fraction (I) TLV-TWA: 3 mg/m3 Respirable fraction (R) TLV-TWA: 0.1 f/cc Respirable fraction (R) | VEMP-TWA: 10 mg/m3 Total particulate/dust (T) | OEL-TWAEV: 10 mg/m3 Total particulate/dust (T) OEL-TWAEV: 3 mg/m3 Respirable fraction (R) OEL-TWAEV: 10 mg/m3 Inhalable fraction (I) OEL-TWAEV: 0.1 f/cc Respirable fraction (R) |
| Amorphous Silica, Fused | OSHA PEL-TWA 0.1 mg/m3 | REL-TWA: 0.05 mg/m3 (Respirable) | ACGIH TLV-TWA 0.1 mg/m3 | VEMP-TWA: 0.1 mg/m3 Respirable fraction (R) | OEL-TWAEV: 0.1 mg/m3 Respirable fraction (R) |
| Ingredient | Alberta Canada | Mexico | British Columbia Canada | | |
| Silicon carbide | OEL-TWA: 10 mg/m3 | LMPE-PPT: 10 mg/m3 LMPE-CT: 20 mg/m3 | OEL-TWA: 10 mg/m3 Inhalable fraction (I) OEL-TWA: 3 mg/m3 Respirable fraction (R) OEL-TWA: 0.1 f/cc Respirable fraction (R) | | |
| Amorphous Silica, Fused | OEL-TWA: 0.1 mg/m3 Respirable fraction (R) | MPE-PPT: 0.1 mg/m3 Respirable fraction (R) | | | |

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.

| Carcinogens: | | | | | | | |
|-------------------------|------------|---------------------|---------|---------|---------|--|--|
| | ACGIH | NIOSH | OSHA | IARC | NTP | | |
| Silicon carbide | Not listed | | | | | | |
| Amorphous Silica, Fused | No Data | NIOSH carcinogen | No Data | No Data | No Data | | |

Silicon carbide :

| RTECS Number: | VW0450000 |
|---------------------------|--|
| Inhalation: | No Data |
| 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: DOT UN Number: | Not regulated as hazardous material for transportation. 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

| Silicon carbide:TSCA Inventory Status:ListedMassachusetts:ListedPennsylvania:ListedCanada DSL:ListedEC Number:206-901-8Amorphous Silica, Fused:ListedTSCA Inventory Status:Listed | | | |
|---|---------------------------|-----------|--|
| TSCA Inventory Status:ListedMassachusetts:ListedPennsylvania:ListedCanada DSL:ListedEC Number:206-991-8 | TSCA Inventory Status: | Listed | |
| TSCA Inventory Status: Listed Massachusetts: Listed Pennsylvania: Listed Canada DSL: Listed | Amorphous Silica, Fused : | | |
| TSCA Inventory Status: Listed Massachusetts: Listed Pennsylvania: Listed | EC Number: | 206-991-8 | |
| TSCA Inventory Status: Listed Massachusetts: Listed | Canada DSL: | Listed | |
| TSCA Inventory Status: Listed | Pennsylvania: | Listed | |
| | Massachusetts: | Listed | |
| <u>Silicon carbide</u> : | TSCA Inventory Status: | Listed | |
| | Silicon carbide : | | |
| | Silicon carbide : | | |

| 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

| MSDS Creation Date: | December 15, 2010 |
|---------------------|-------------------|
| MSDS Revision Date: | July 01, 2013 |

 ${\tt Copyright} \circledast$ 1996-2013 Actio Corporation. All Rights Reserved.