MATERIAL SAFETY DATA SHEET

PART# 66252830611
DATE PRINTED: FEB 05, 2003
MSDS NO. ALRESIN056 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel

TRADE NAME
Alundum wheel

MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
1 New Bond St.
Worcester, MA, 01615
(508) 795-5000

REVISION DATE
2/05/2003

MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>SUBSTANCE DESCRIPTION</th>
<th>PERCENT</th>
<th>CAS#</th>
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</thead>
<tbody>
<tr>
<td>Aluminum Oxide, Non-fibrous</td>
<td>60.000-90.000</td>
<td>1344-28-1</td>
</tr>
<tr>
<td>Cured Phenol/Formaldehyde Resin</td>
<td>2.000-15.000</td>
<td>9003-35-4</td>
</tr>
<tr>
<td>Inorganic Fluorides**</td>
<td>1.000-15.000</td>
<td>NA</td>
</tr>
<tr>
<td>Iron Disulfide</td>
<td>2.000-30.000</td>
<td>12068-85-8</td>
</tr>
</tbody>
</table>
** SUBSTANCE IS A COMPOUND AND/OR MIXTURE
OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.

INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.
For products containing inorganic fluorides, excessive exposure to inorganic fluorides have been shown to increase bone density.

EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.

SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.

INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately.

SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.

EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed.

INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable

HAZARDOUS PRODUCTS/COMBUSTION
None.

HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

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.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.

RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).

EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.

OTHER PROTECTION
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).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES
APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.

DECOMPOSITION
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.

For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde. For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
For wheels containing fiberglass, fiber diameters are greater than 10um, therefore considered non-respirable.

Fiberglass - IARC-3
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degr