SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION

PRODUCT NAME Resin Bonded Grinding Wheels
END USE Grinding wheel
MANUFACTURER Western Abrasives
1170 NE 63rd Avenue
Portland, Oregon 97213
Phone: (503) 234-0733
Fax: (503) 235-3851
EMERGENCY PHONE NUMBER (503) 234-0733

SECTION 2 – HAZARD IDENTIFICATION

CLASSIFICATION Acute Toxicity, Oral – 5
Acute Toxicity, Dermal – 4
Acute Toxicity, Inhalation – 5
Serious Eye Damage/Eye Irritation – 2B
Skin Corrosion/Irritation – 2

SIGNAL WORD Warning

HAZARD STATEMENT May be harmful if swallowed (H303)
Harmful in contact with skin (H312)
May be harmful if inhaled (H333)
Causes eye irritation (H320)
Causes skin irritation (H315)

HAZARD PICTOGRAMS

PRECAUTIONARY STATEMENT(S)
Prevention
P264 – Wash hands and exposed skin thoroughly after handling.
P280 – Wear protective gloves and clothing. Chemical resistant or impervious gloves are sufficient.

Response
P302 + P352 + P362 + P363 – IF ON SKIN: Wash with plenty
of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse.
P305 + P351 + P338 + P310 – IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P332 + P313 – If skin irritation occurs: Get medical attention.
P312 + P304 – IF SWALLOWED OR INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.
P501 – Dispose of contents or container in accordance with local, regional, national and international regulations.

HAZARDS NOT OTHERWISE CLASSIFIED
N/A

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>SUBSTANCE / MIXTURE</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTHER MEANS OF IDENTIFICATION</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INGREDIENT NAME</th>
<th>% BY WEIGHT</th>
<th>CAS NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum Oxide</td>
<td>50 – 90</td>
<td>1344-28-1</td>
</tr>
<tr>
<td>Silicon Carbide</td>
<td>50 – 90</td>
<td>409-21-2</td>
</tr>
<tr>
<td>Trisodium hexafluoroaluminate</td>
<td>0.1 – 5</td>
<td>15096-52-3</td>
</tr>
<tr>
<td>Gamma-Aminopropyltriethoxysilane</td>
<td>0.1 – 5</td>
<td>919-30-2</td>
</tr>
<tr>
<td>Phenolic Resin</td>
<td>0.1 – 5</td>
<td>N/A</td>
</tr>
<tr>
<td>Furfural</td>
<td>0.1 – 5</td>
<td>98-01-1</td>
</tr>
<tr>
<td>Zinc Sulfide</td>
<td>0.1 – 5</td>
<td>12169-28-7</td>
</tr>
<tr>
<td>Calcium Hydroxide</td>
<td>0.1 – 5</td>
<td>1305-62-0</td>
</tr>
<tr>
<td>Manganese Dichloride</td>
<td>0.1 – 5</td>
<td>7773-01-5</td>
</tr>
</tbody>
</table>

Any concentrations shown in a range are to protect trade secret confidentiality or is due to batch variation. There are no additional ingredients present, which within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

SECTION 4 – FIRST AID MEASURES

DESCRIPTION OF NECESSARY FIRST AID MEASURES

EYE CONTACT Rinse cautiously with water for several minutes. Remove
contact lenses, if present and easy to do so. Continue rinsing. If eye irritation persists: Get medical attention.

**INHALATION**
Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**SKIN CONTACT**
Wash affected areas with soap and water. If irritation develops, get medical attention. Remove and launder contaminated clothing before reuse.

**INGESTION**
Immediately call poison center or doctor. Rinse mouth. Never give fluids or induce vomiting if the victim is unconscious or have convulsions. Seek immediate medical attention.

**MOST IMPORTANT SYMPTOMS / EFFECTS, ACUTE AND DELAYED**

<table>
<thead>
<tr>
<th>EFFECTS</th>
<th>ACUTE</th>
<th>DELAYED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EYE CONTACT</strong></td>
<td>May cause eye irritation.</td>
<td></td>
</tr>
<tr>
<td><strong>INHALATION</strong></td>
<td>May cause respiratory tract irritation.</td>
<td></td>
</tr>
<tr>
<td><strong>SKIN CONTACT</strong></td>
<td>Causes skin irritation.</td>
<td></td>
</tr>
<tr>
<td><strong>INGESTION</strong></td>
<td>May cause gastrointestinal irritation.</td>
<td></td>
</tr>
</tbody>
</table>

**INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDS, IF NECESSARY**

<table>
<thead>
<tr>
<th>EFFECTS</th>
<th>ACUTE</th>
<th>DELAYED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EYE CONTACT</strong></td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td><strong>INHALATION</strong></td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td><strong>SKIN CONTACT</strong></td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td><strong>INGESTION</strong></td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

**SECTION 5 – FIRE FIGHTING MEASURES**

<table>
<thead>
<tr>
<th>MEDIA</th>
<th>Foam CO2, Dry Chemical, Water, Fog Foam</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SUITABLE MEDIA</strong></td>
<td></td>
</tr>
<tr>
<td><strong>UNSUITABLE MEDIA</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>SPECIFIC HAZARDS ARISING FROM THE CHEMICAL</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>SPECIAL EQUIPMENT FOR FIRE-FIGHTERS</strong></td>
<td>As in any fire, wear pressure-demand self-contained breathing apparatus (SCBA) (MSHA/NIOSH approved or equivalent) and full protective gear.</td>
</tr>
</tbody>
</table>
SECTION 6 – ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

FOR NON-EMERGENCY PERSONNEL
- Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material.
- Avoid breathing dust/fumes/mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

FOR EMERGENCY PERSONNEL
- If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel.

ENVIRONMENTAL PRECAUTIONS
- Avoid runoff into storm sewers and ditches that lead to waterways. Consult your state or local authorities for proper disposal in the event that more restrictive requirements apply.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

LARGE SPILLS
- Discard any product, residue, disposal container or liner in full compliance with federal, state and local regulations.

SMALL SPILLS
- Same protocol as above.

SECTION 7 – HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

PROTECTIVE MEASURES
- Inspect for defects before use. Use in a well ventilated area.
- Keep out of reach of children. If user operations generate dust, fume, or mist, use ventilation to keep exposure to airborne contaminants below the respective exposure limits.
- Use safety glasses and gloves to handle.

GENERAL HYGIENE
- Do not take internally. Wash thoroughly after handling.
- Remove contaminated clothing and wash before reuse. Avoid breathing dust/fumes/mist.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATABILITIES
- Store away from heat and moisture.
SECTION 8 – EXPOSURE CONTROL/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS

<table>
<thead>
<tr>
<th>COMPOUND</th>
<th>CAS #</th>
<th>OSHA PEL 8-HR TWA</th>
<th>ACGIH TLV 8-HR TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum Oxide</td>
<td>1344-28-1</td>
<td>5 mg/m³</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td>Silicon Carbide</td>
<td>409-21-2</td>
<td>15 mg/m³ (Total Dust)</td>
<td>10 mg/m³ (Total Dust)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 mg/m³ (Respirable)</td>
<td>3 mg/m³ (Respirable)</td>
</tr>
<tr>
<td>Trisodium hexafluoroaluminate</td>
<td>15096-52-3</td>
<td>2.5 mg/m³ (As Fluoride)</td>
<td>2.5 mg/m³ (As Fluoride)</td>
</tr>
<tr>
<td>Calcium Hydroxide</td>
<td>1305-62-0</td>
<td>15 mg/m³ (Total Dust)</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 mg/m³ (Respirable)</td>
<td></td>
</tr>
</tbody>
</table>

CONTROLS

ENGINEERING CONTROLS

Local exhaust ventilation may be necessary to control any air contaminants to within their respective exposure limits during the use of this product.

PERSONAL PROTECTIVE EQUIPMENT

Wear a NIOSH/MSHA approved respirator when the product used in poorly ventilated areas or if the workplace levels of ingredients exceed exposure limits. When contact is likely, wear gloves, safety glasses with a face shield, and clean protective clothing to cover arms and legs at a minimum.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

PHYSICAL STATE: Solid
COLOR: Grey
ODOR: None
ODOR THRESHOLD: ND
pH: ND
MELTING POINT: ND
BOILING POINT: ND
FLASH POINT: ND
EVAPORATION RATE: ND
FLAMMABILITY (SOLID, GAS): ND
UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: N/A
VAPOR PRESSURE: ND
VAPOR DENSITY: ND
RELATIVE DENSITY ND
SOLUBILITY(IES) ND
PARTITION COEFFICIENT: N-OCTANOL / WATER ND
AUTO-IGNITION TEMPERATURE ND
DECOMPOSITION TEMPERATURE ND
VISOCITY ND

SECTION 10 – STABILITY AND REACTIVITY

REACTIVITY This product is not reactive under normal conditions
CHEMICAL STABILITY This product is stable under normal storage conditions.
POSSIBILITY OF Will not occur under normal conditions.
HAZARDOUS REACTION CONDITIONS TO AVOID None.
INCOMPATIBLE Strong acids and oxidizing agents.
MATERIALS HAZARDOUS Formaldehyde, carbon monoxide, carbon dioxide, nitrogen
DECOMPOSITION oxide, ammonia, phenol, aromatic and aliphatic hydrocarbons,
PRODUCTS hydrogen chloride, and n-nitrosoamines.

SECTION 11 – TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS
ACUTE TOXICITY May cause irritation to eyes, gastrointestinal and respiratory tracts.
IRRITATION / CORROSION Causes irritation to skin.
SENSITIZATION N/A
MUTAGENICITY N/A
CARCINOGENICITY N/A
REPRODUCTIVE TOXICITY N/A
TETRAOGENICITY N/A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) N/A
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) N/A
ASPIRATION HAZARD N/A
INFORMATION ON LIKELY ROUTES OF Inhalation and dermal likely routes of
EXPOSURE

POTENTIAL ACUTE HEALTH EFFECTS

EYE CONTACT May cause irritation to eyes.
INHALATION May cause irritation to respiratory tract.
SKIN CONTACT Causes skin irritation.
INGESTION May cause irritation to gastrointestinal tract.

SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS

EYE CONTACT N/A
INHALATION N/A
SKIN CONTACT N/A
INGESTION N/A

DELAYED AND IMMEDIATE EFFECTS AND ALSO CHRONIC EFFECTS FROM SHORT AND LONG TERM EXPOSURE

SHORT TERM EXPOSURE – POTENTIAL IMMEDIATE EFFECTS ND
SHORT TERM EXPOSURE – POTENTIAL DELAYED EFFECTS ND
LONG TERM EXPOSURE – POTENTIAL IMMEDIATE EFFECTS ND
LONG TERM EXPOSURE – POTENTIAL DELAYED EFFECTS ND

POTENTIAL CHRONIC HEALTH EFFECTS

GENERAL ND
CARCINOGENICITY N/A
MUTAGENICITY N/A
TERATOGENICITY N/A
DEVELOPMENTAL EFFECTS N/A
FERTILITY EFFECTS N/A

NUMERICAL MEASURES OF TOXICITY (ACUTE TOXICITY ESTIMATE)

TOXICOLOGICAL DATA:

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>ORAL RAT (LD50)</th>
<th>SKIN RABBIT (LD50)</th>
<th>INHALATION RAT (LC50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum Oxide</td>
<td>&gt;5000 mg/kg</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Gamma-Aminopropyltriethoxysilane</td>
<td>N/A</td>
<td>&gt;2000 mg/kg</td>
<td>&gt;7.35 mg/l</td>
</tr>
<tr>
<td>Substance</td>
<td>Toxicity</td>
<td>Persistence and Degradability</td>
<td>Bioaccumulative Potential</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------</td>
<td>-------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Zinc Sulfide</td>
<td>&gt;15000 mg/kg</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Calcium Hydroxide</td>
<td>&gt;5000 mg/kg</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Manganese Dichloride</td>
<td>&gt;5000 mg/kg</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**SECTION 12 – ECOLOGICAL INFORMATION**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOXICITY</td>
<td>ND</td>
</tr>
<tr>
<td>PERSISTENCE AND DEGRADABILITY</td>
<td>ND</td>
</tr>
<tr>
<td>BIOACCUMULATIVE POTENTIAL</td>
<td>ND</td>
</tr>
<tr>
<td>MOBILITY IN SOIL</td>
<td>ND</td>
</tr>
<tr>
<td>OTHER ADVERSE EFFECTS</td>
<td>ND</td>
</tr>
</tbody>
</table>

**SECTION 13 – DISPOSAL CONSIDERATIONS**

| Disposal Considerations     | Review all local, state, and federal regulations concerning health and pollution for appropriate disposal procedures. |

**SECTION 14 – TRANSPORTATION INFORMATION**

| DOT Proper Shipping Name    | Not regulated        |

**SECTION 15 – REGULATORY INFORMATION**

<table>
<thead>
<tr>
<th>U.S. Federal Regulation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CERLA – SARA</td>
<td>This product has been reviewed according to the EPA “Hazard Categories” promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following category: Chronic Health Hazard.</td>
</tr>
<tr>
<td>HAZARD CATEGORY</td>
<td>This product does contain toxic chemical(s) at or above the de minimus concentrations subject to the reporting requirements of section 313 of Title III Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372.</td>
</tr>
<tr>
<td>SARA SECTION 313</td>
<td>This product meets the compositional requirements of the Toxic Substances Control Act and contains only chemical ingredients that are listed on the TSCA inventory.</td>
</tr>
<tr>
<td>TOXIC SUBSTANCES</td>
<td>This product does not contain chemical(s) known to California to cause cancer and/or birth defects or other reproductive harm.</td>
</tr>
<tr>
<td>CONTROL ACT</td>
<td></td>
</tr>
<tr>
<td>CALIFORNIA PROP. 65</td>
<td></td>
</tr>
</tbody>
</table>

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SECTION 16 – OTHER INFORMATION

<table>
<thead>
<tr>
<th>HMIS RATINGS</th>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>REACTIVITY</th>
<th>PERSONAL PROTECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

EUROPEAN PRECAUTIONARY PICTOGRAMS

PREVIOUS SDS REVISION DATE 2/14

REASON FOR REVISION ND

VOLATILE ORGANIC COMPOUNDS (VOC’S) ND

LEGEND N/A – Not Applicable, ND – Not Determined

ABBREVIATIONS USED ACGIH – American Conference of Governmental Industrial Hygienists
OSHA – Occupational Safety and Health Administration
TLV – Threshold Limit Value
PEL – Permissible Exposure Limit
TWA – Time Weighed Average
STEL – Short Term Exposure Limit
NTP – National Toxicology Program
IARC – International Agency for Research on Cancer

NOTICE TO READER The information contained herein is based on the data available to us and is believed to be correct. However, Western Abrasives, Inc. makes no warranty, express or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

END OF SAFETY DATA SHEET