Section 1 - Product and Company Identification

Product Name: LiquaTile 1172 Hardener (All Versions)

toll vendor/formulator:
Wolverine Coatings Corporation
140 Metro Drive
Spartanburg, SC  29303

Product Use: Coatings
Not recommended for: None Identified

Section 2 - Hazards Identification

GHS Ratings
Skin Corrosive  1B  Destruction of dermal tissue: Exposure < 1 hour Observation < 14 days, visible necrosis in at least one animal
Eye Corrosive  1  Serious eye damage: Irreversible damage 21 days after exposure, Draize score: Corneal opacity >= 3, Iritis > 1.5
Skin Sensitizer  1  Skin sensitizer

GHS Hazards
H314  Causes severe skin burns and eye damage
H317  May cause an allergic skin reaction
H318  Causes serious eye damage

GHS Precautions
P260  Do not breathe dust/fume/gas/mist/vapours/spray
P261  Avoid breathing dust/fume/gas/mist/vapours/spray
P264  Wash thoroughly after handling
P272  Contaminated work clothing should not be allowed out of the workplace
P280  Wear protective gloves/protective clothing/eye protection/face protection
P301+P330+P331  IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P302+P352  IF ON SKIN: Wash with soap and water
P303+P361+P353  IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340  IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305+P351+P338  IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P333+P313  If skin irritation or a rash occurs: Get medical advice/attention
P405  Store locked up
P501  Dispose of contents/container in accordance with all local, regional, national, and international regulations.
Signal Word: Danger

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**Section 3 - Composition / Information on Ingredients**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>Weight Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz</td>
<td>14808-60-7</td>
<td>30.00% - 40.00%</td>
</tr>
<tr>
<td>Trade Secret</td>
<td>N/A</td>
<td>10.00% - 20.00%</td>
</tr>
<tr>
<td>Hydrous magnesium silicate</td>
<td>14807-96-6</td>
<td>5.00% - 10.00%</td>
</tr>
<tr>
<td>Isophorone diamine</td>
<td>2855-13-2</td>
<td>5.00% - 10.00%</td>
</tr>
<tr>
<td>Polyoxypropylenediamine</td>
<td>9046-10-0</td>
<td>5.00% - 10.00%</td>
</tr>
<tr>
<td>Benzyl Alcohol</td>
<td>100-51-6</td>
<td>5.00% - 10.00%</td>
</tr>
<tr>
<td>4,4’-Isopropylidenediphenol-Epichlorohydrin Copolymer</td>
<td>25068-38-6</td>
<td>1.00% - 5.00%</td>
</tr>
<tr>
<td>Aluminum Oxide</td>
<td>1344-28-1</td>
<td>1.00% - 5.00%</td>
</tr>
<tr>
<td>Trade Secret</td>
<td>N/A</td>
<td>1.00% - 5.00%</td>
</tr>
<tr>
<td>Silicones and Siloxanes, dimethyl-, reaction products with silica</td>
<td>67762-90-7</td>
<td>1.00% - 5.00%</td>
</tr>
</tbody>
</table>

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**Section 4 – First Aid Measures**

**Inhalation:** If affected, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

**Eye Contact:** Immediately flush eyes for at least fifteen minutes with running water. Hold eyelids apart to ensure rinsing of the entire eye surface and lids with water. If eye irritation persists: Get medical advice/attention.

**Skin contact:** Immediately remove contaminated clothing and shoes. Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.

**Ingestion:** Do not induce vomiting. Never give anything by mouth to an unconscious person. If a person vomits when lying on his back, place him in the recovery position. Get immediate medical attention.

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**Section 5 – Fire Fighting Measures**

**Flash Point:** 100C (212F)
**LEL:** Not Available
**UEL:** Not Available

**Extinguishing Media:** Use carbon dioxide, foam, dry chemical, dry sand, water fog, or limestone powder extinguishing systems.

**Hazardous combustion products:** Irritating or toxic substances may be emitted upon burning, combustion or decomposition. See section 10 (Stability and Reactivity) for additional information.

**Special Fire Fighting Procedures:** Firefighters should be equipped with self-contained breathing apparatus.
### Section 6 - Accidental Release Measures

Spill and Leak Procedures: Avoid all personal contact. Ensure cleanup personnel wear all appropriate Personal Protective Equipment (PPE), including respiratory protection. Spills should be contained, solidified, and placed in suitable containers for disposal.

### Section 7 - Handling and Storage

Handling Precautions: Use good laboratory/workplace procedures. Wash thoroughly after handling this product. Always wash up before eating, smoking or using the facilities. Use under well-ventilated conditions. Avoid eye and skin contact. Avoid inhalation of aerosol, mist, spray, fume or vapor. Avoid drinking, tasting, swallowing or ingesting this product. Wash contaminated clothing before reuse. Discard shoes contaminated with this product.

Storage Requirements: Keep away from heat, sparks, and open flames. Store cool and dry, under well-ventilated conditions. Store this material away from incompatible substances (see section 10). Do not store in open, unlabeled or mislabeled containers. Keep container closed when not in use.

### Section 8 – Exposure Controls / Personal Protection

<table>
<thead>
<tr>
<th>Chemical Name / CAS No.</th>
<th>OSHA Exposure Limits</th>
<th>ACGIH Exposure Limits</th>
<th>Other Exposure Limits</th>
</tr>
</thead>
</table>
| **Quartz** 14808-60-7   | TWA30 mg/m3 / %SiO2+2 total dust  
TWA: 10 mg/m3 %SiO2+2 respirable fraction | TWA: 0.025 mg/m3 | Not Established |
| **Trade Secret**        | Not Established      | Not Established       | Not Established       |
| **Hydrous magnesium silicate** 14807-96-6 | TWA: 20 million particles per ft3 | TWA: 2 mg/m3 | Not Established |
| **Isophorone diamine** 2855-13-2 | Not Established | Not Established       | Not Established       |
| **Polyoxypolyenediamine** 9046-10-0 | Not Established | Not Established       | Not Established       |
| **Benzyl Alcohol** 100-51-6 | Not Established | Not Established       | Not Established       |
| **4,4’-Isopropylidenephenol-Epichlorohydrin Copolymer** 25068-38-6 | Not Established | Not Established       | Not Established       |
| **Aluminum Oxide** 1344-28-1 | TWA: 15 mg/m3 total dust  
TWA: 5 mg/m3 Respirable fraction | TWA: 1 mg/m3 | Not Established |
| **Trade Secret**        | Not Established      | Not Established       | Not Established       |
| **Silicones and Siloxanes, dimethyl-, reaction products with silica** 67762-90-7 | PEL: 6 mg/m3 | TWA: 10 mg/m3 Inhalable | Not Established |

Ventilation: Good general mechanical ventilation and local exhaust is recommended.
Eye wash must be easily accessible. Wear protective clothing as necessary to prevent contact. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. Gloves must be inspected regularly and prior to each use. Replace if necessary.

Personal Protective Equipment:
Wear impervious protective gloves. Wear OSHA, NIOSH approved organic vapor respirator if ventilation is inadequate. Wear appropriate protective eyewear such as splash-proof, chemical resistant safety goggles.

Take off all contaminated clothing immediately. Wash contaminated clothing before reuse.

### Section 9 - Physical and Chemical Properties

This mixture typically exhibits the following properties under normal circumstances:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>0.51mm Hg</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not Available</td>
</tr>
<tr>
<td>Density (g/cm³)</td>
<td>1.47</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>Not Available</td>
</tr>
<tr>
<td>Boiling Range</td>
<td>205°C</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not Available</td>
</tr>
<tr>
<td>Explosive Limits</td>
<td>Not Available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>Not Available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not Available</td>
</tr>
<tr>
<td>Odor</td>
<td>Ammonical</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not Available</td>
</tr>
<tr>
<td>pH</td>
<td>Not Available</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not Available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Not Available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>100°C, 212°F</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not Available</td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>Not Available</td>
</tr>
<tr>
<td>Partition Coefficient (n-octanol/water):</td>
<td>Not Available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not Available</td>
</tr>
<tr>
<td>Grams VOC less water</td>
<td>Nil</td>
</tr>
</tbody>
</table>

### Section 10 – Stability and Reactivity

Stability: STABLE

Components of this mixture are incompatible with the following materials:
- Strong Acids
- Strong oxidizers

This mixture is likely to exhibit the following combustion products:
- Biphenyls
- Halogenated Compounds
- Carbon Dioxide, Carbon Monoxide
- Nitrogen oxides

Hazardous polymerization will not occur.

### Section 11 - Toxicological Information

#### Mixture Toxicity
Inhalation Toxicity LC50: 85mg/L

#### Component Toxicity
- **2855-13-2** Isophorone diamine  
  Oral LD50: 1,030 mg/kg (Rat)  Dermal LD50: 2,010 mg/kg (Rat)  Inhalation LC50: 5 mg/L (Rat)

- **9046-10-0** Polyoxypropylenediamine  
  Oral LD50: 2,885 mg/kg (Rat)  Dermal LD50: 2,979 mg/kg (Rabbit)  Inhalation LC50: 1 mg/L (Rat)
LiquaTile 1172-020 Hardener – Safety Data Sheet (Cont.)

100-51-6  Benzyl Alcohol
           Oral LD50: 1,620 mg/kg (Rat)  Dermal LD50: 2,010 mg/kg (Rabbit)  Inhalation LC50: 4 mg/L (Rat)

67762-90-7  Silicones and Siloxanes, dimethyl-, reaction products with silica
           Dermal LD50: 2,100 mg/kg (Rat)

Routes of Entry:
- Inhalation
- Skin Contact
- Eye Contact
- Ingestion

Exposure to this material may affect the following organs:
- Lungs
- Respiratory System

The following chemicals comprise 0.1% or more of this mixture and are listed and/or classified as carcinogens or potential carcinogens by NTP, IARC, OSHA (mandatory listing), or ACGIH (optional listing):

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Description</th>
<th>% Weight</th>
<th>Carcinogen Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Section 12 - Ecological Information

Component Toxicity
- Trade Secret
- Hydrous magnesium silicate
- Isophorone diamine
- Polyoxypyropylenediamine
- Benzyl Alcohol
- 4,4’-Isopropylidenediphenol-
  Epichlorohydrin Copolymer
- Trade Secret
- Silicones and Siloxanes, dimethyl-, reaction products with silica

Section 13 - Disposal Considerations

Waste disposal Methods: Dispose in accordance with Federal, State and Local regulations.

Section 14 - Transport Information

This material is classified for transport as follows: UN3066, Paint Related Material, N.O.S., 8, III, CORROSIVE (CONTAINS DIETHYLENTRIAMINE 8).

Section 15 - Regulatory Information

Additional regulatory listings, where applicable

State of California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): WARNING! This product contains the following chemicals which are listed by the State of California as carcinogenic or a reproductive toxin:
Hydrous magnesium silicate  14807-96-6  
Quartz  14808-60-7  
Titanium Dioxide  13463-67-7  

Materials not included on the Canada DSL inventory:  
- None  

Commonwealth of Massachusetts "Right to Know": This product contains the following toxic or hazardous substances which appear on the Massachusetts Substance List:  
- Trade Secret  
  - Aluminum Oxide  1344-28-1  
  - Benzyl Alcohol  100-51-6  
  - Hydrous magnesium silicate  14807-96-6  
  - Quartz  14808-60-7  

NJ "Right to Know": This product contains the following toxic or hazardous substances which appear on the New Jersey Substance List:  
- Trade Secret  
  - Aluminum Oxide  1344-28-1  
  - 4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer  25068-38-6  
  - Benzyl Alcohol  100-51-6  
  - Isophorone diamine  2855-13-2  
  - Hydrous magnesium silicate  14807-96-6  
  - Quartz  14808-60-7  

Pennsylvania "Right to Know": This product contains the following toxic or hazardous substances which appear on the Pennsylvania Substance List:  
- Trade Secret  
  - Aluminum Oxide  1344-28-1  
  - 4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer  25068-38-6  
  - Benzyl Alcohol  100-51-6  
  - Isophorone diamine  2855-13-2  
  - Hydrous magnesium silicate  14807-96-6  
  - Quartz  14808-60-7  

EPA SARA Title III Section 313 (40 CFR 372) components above 'de minimum' level:  
- Aluminum Oxide  1344-28-1  

Toxic Substances Control Act (TSCA): All chemicals except those listed below appear in the Toxic Substances Control Act Chemical Substance Inventory:  
- None  

Section 16 -Other Information  

For further information, please contact the Product Safety director. The information and recommendations contained herein are, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely. No representations or warranties, either expressed or implied of merchantability, fitness for a particular purpose, or any other nature, are made hereunder with respect to the information contained herein, or to the chemical to which the user refers.  

Date Revised: 6/10/15  
Reviewer Revision 0  
Date Prepared: 6/10/2015  

SDS: LiquaTile 1172 Hardener (2015-06)