1. IDENTIFICATION

Product identifier
Product Name - PERMAX 2.0 R (COMPONENT B)

Other means of identification
Product Code RT204513
Synonyms None

Recommended use of the chemical and restrictions on use
Recommended Use Spray foam insulation.
Uses advised against No information available

Details of the supplier of the safety data sheet

Emergency telephone number

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
</tbody>
</table>

Label elements

Emergency Overview

Warning

Hazard statements
Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction
May cause respiratory irritation

Appearance viscous Physical state liquid Odor Slight

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling  
Wear protective gloves/protective clothing/eye protection/face protection  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Contaminated work clothing should not be allowed out of the workplace  
Use only outdoors or in a well-ventilated area

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention  
IF ON SKIN: Wash with plenty of soap and water  
Take off contaminated clothing and wash before reuse  
If skin irritation or rash occurs: Get medical advice/attention  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
Call a POISON CENTER or doctor/physician if you feel unwell

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed  
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)  
Not applicable

Other Information  
Contents may be under pressure.  Open container carefully.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance</th>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polylol Blend</td>
<td>NA-Mixture</td>
<td>30 - 70</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>1,1,1,3,3-Pentafluoropropane</td>
<td>460-73-1</td>
<td>5 - 15</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Tertiary Amines</td>
<td>Proprietary</td>
<td>1 - 5</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

Eye contact  
Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.  Consult a physician.

Skin contact  
Wash skin with soap and water.

Inhalation  
Remove to fresh air.

Ingestion  
Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms  
No information available.

Indication of any immediate medical attention and special treatment needed
Note to physicians  Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media  CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
No information available.

Explosion data
Sensitivity to Mechanical Impact  None.
Sensitivity to Static Discharge  None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions  Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions  See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment  Prevent further leakage or spillage if safe to do so.

Methods for cleaning up  Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling  Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions  Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials  None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines  This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering Controls  Showers
Eyewash stations
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

- **Eye/face protection**: Tightly fitting goggles
- **Skin and body protection**: Protective gloves and protective clothing.
- **Respiratory protection**: NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**General Hygiene Considerations**: Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>viscous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>amber</td>
<td>Odor</td>
<td>Slight</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>6-10</td>
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<tr>
<td>Melting point / freezing point</td>
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<tr>
<td>Boiling point / boiling range</td>
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<td></td>
<td></td>
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<tr>
<td>Flash point</td>
<td>&gt; 100 °C / &gt; 212 °F</td>
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<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
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<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
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<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
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</tr>
<tr>
<td>Lower flammability limit</td>
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<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
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<td></td>
</tr>
<tr>
<td>Vapor density</td>
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<td>Relative density</td>
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<td>Water solubility</td>
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<td>Solubility in other solvents</td>
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<td>Partition coefficient</td>
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</tr>
<tr>
<td>Autoignition temperature</td>
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<td></td>
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</tr>
<tr>
<td>Decomposition temperature</td>
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<tr>
<td>Kinematic viscosity</td>
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</tr>
<tr>
<td>Dynamic viscosity</td>
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<tr>
<td>Explosive properties</td>
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<tr>
<td>Oxidizing properties</td>
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<td></td>
</tr>
<tr>
<td>Softening point</td>
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<td></td>
</tr>
<tr>
<td>Molecular weight</td>
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<td></td>
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</tr>
<tr>
<td>VOC Content (%)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulk density</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available

### Chemical stability
Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**
None under normal processing.

**Conditions to avoid**
Extremes of temperature and direct sunlight.

**Incompatible materials**
None known based on information supplied.

**Hazardous Decomposition Products**
None known based on information supplied.

### 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information**
No data available

- **Inhalation**
  May cause irritation of respiratory tract.

- **Eye contact**
  Irritating to eyes.

- **Skin contact**
  Irritating to skin. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

- **Ingestion**
  No data available.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50 (Rat)</th>
<th>Dermal LD50 (Rabbit)</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary Amines</td>
<td>472 mg/kg</td>
<td>700 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Information on toxicological effects**

**Symptoms**
May cause an allergic skin reaction. Redness.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

- **Sensitization**
  May cause sensitization by skin contact.

- **Germ cell mutagenicity**
  No information available.

- **Carcinogenicity**
  No information available.

- **Reproductive toxicity**
  No information available.

- **STOT - single exposure**
  Respiratory system.

- **STOT - repeated exposure**
  No information available.

- **Aspiration hazard**
  No information available.

**Numerical measures of toxicity** - Product Information

The following values are calculated based on chapter 3.1 of the GHS document  mg/kg  6064  8842

### 12. ECOLOGICAL INFORMATION

**Ecotoxicity**
May cause long lasting harmful effects to aquatic life

**Persistence and degradability**
No information available.

**Bioaccumulation**
No information available.
Other adverse effects: No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes: Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging: Do not reuse container.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

14. TRANSPORT INFORMATION

- DOT: Not regulated
- TDG: Not regulated
- MEX: Not regulated
- ICAO (air): Not regulated
- IATA: Not regulated
- IMDG: Not regulated
- RID: Not regulated
- ADR: Not regulated
- ADN: Not regulated

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Compliance Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Complies</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Complies</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Complies</td>
</tr>
<tr>
<td>ENCS</td>
<td>Complies</td>
</tr>
<tr>
<td>IECSC</td>
<td>Complies</td>
</tr>
<tr>
<td>KECL</td>
<td>Complies</td>
</tr>
<tr>
<td>PICCS</td>
<td>Complies</td>
</tr>
<tr>
<td>AICS</td>
<td>Complies</td>
</tr>
</tbody>
</table>

Legend:
- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances
- AICS - Australian Inventory of Chemical Substances

US Federal Regulations
SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

- Acute health hazard: Yes
- Chronic Health Hazard: No
- Fire hazard: No
- Sudden release of pressure hazard: No
- Reactive Hazard: No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65
This product may contain trace amounts of chemicals known to the state of California to cause cancer.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary Amines</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Polyol Blend</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

Issue Date: 02-Jun-2015
Revision Date: 02-Jun-2015
Revision Note: No information available

Disclaimer
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet