1. **Product and Company Identification**

1.1. **Product identifier** Trade name: *Epoxy.com Product #699 Sealer Resin*

   Solution of an acrylic polymer in an acrylic acid ester

1.2. **Recommended use of the chemical and restrictions on use**

   Recommended use(s): binder for floor-coating

   Non-recommended use(s): None known.

1.3. **Details of the supplier of the safety data sheet**

   Epoxy Systems, Inc.
   20774 W Pennsylvania Ave.
   Dunnellon, FL 34431
   USA
   352-489-1666 (phone)
   352-489-1625 (fax)

   Product Information Number 352-489-1666
   24 Hour Emergency Number, PERS 1-800-633-0667
   International Emergency Number PERS +1-801-629-0887

2. **Hazard identification**

2.1. **Classification of the substance or mixture**

   This mixture is classified as hazardous according to GHS

   **Classification according to Regulation 29CFR 1910.1200**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Hazard category</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquids</td>
<td>2</td>
<td>H225</td>
</tr>
<tr>
<td>Acute toxicity</td>
<td>4</td>
<td>H302</td>
</tr>
<tr>
<td>Caustic burning / irritation of skin</td>
<td>2</td>
<td>H315</td>
</tr>
<tr>
<td>Skin Sensitisation</td>
<td>1A</td>
<td>H317</td>
</tr>
<tr>
<td>Specific Target Organ Toxicity - Single exposure</td>
<td>3</td>
<td>H335</td>
</tr>
</tbody>
</table>

2.2. **Label elements**

   **GHS pictogram**

   ![Pictogram](image_url)

   **Signal word** Danger
| Hazard statement | Highly flammable liquid and vapour. (H225)  
|                  | Harmful if swallowed. (H302)  
|                  | Causes skin irritation. (H315)  
|                  | May cause an allergic skin reaction. (H317)  
|                  | May cause respiratory irritation. (H335)  

### Precautionary Statement

#### Prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. (P210)  
Keep container tightly closed. (P233)  
Ground/bond container and receiving equipment. (P240)  
Use explosion-proof electrical/ventilating/lighting.../equipment. (P241)  
Use only non-sparking tools. (P242)  
Take precautionary measures against static discharge. (P243)  
Avoid breathing dust/fume/gas/mist/vapours/spray. (P261)  
Wash hands thoroughly with soap and water after handling. (P264)  
Do not eat, drink or smoke when using this product. (P270)  
Use only outdoors or in a well-ventilated area. (P271)  
Contaminated work clothing should not be allowed out of the workplace. (P272)  
Wear protective gloves/protective clothing/eye protection/face protection. (P280)

#### Response

Call a POISON CENTER/doctor if you feel unwell. (P312)  
Specific treatment (see supplementary first aid instructions on this label). (P321)  
Rinse mouth. (P330)  
Take off contaminated clothing. (P362)  
Wash contaminated clothing before reuse. (P363)  
IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. (P301 + P312)  
IF ON SKIN: Wash with plenty of water/soap. (P302 + P352)  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. (P303 + P361 + P353)  
IF INHALED: Remove person to fresh air and keep comfortable for breathing. (P304 + P340)  
If skin irritation or rash occurs: Get medical advice/attention. (P333 + P313)  
In case of fire: Use alcohol-resistant foam, carbon dioxide or dry sand for extinction. (P370 + P378)

#### Storage

Store locked up. (P405)  
Store in a well-ventilated place. Keep container tightly closed. (P403 + P233)  
Store in a well-ventilated place. Keep cool. (P403 + P235)

### Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations. (P501)

### Hazardous component(s) for labelling

contains methyl methacrylate  
dibutyl maleate  
N,N-bis-(2-hydroxypropyl)-p-toluidine  
1,4-butanediol dimethacrylate
2.3. Other hazards

electrostatic charge
Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions.

3. Composition/information on ingredients

3.1. Substance s

3.2. Mixtures

Hazardous Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Content</th>
<th>Hazard class / Hazard category / Hazard statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>methyl methacrylate</td>
<td>80-62-6</td>
<td>60.0 - 100.0 %</td>
<td>Flam. Liq. 2 ; H225</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Sens. 1B ; H317</td>
</tr>
<tr>
<td>1,4-butanediol dimethacrylate</td>
<td>2082-81-7</td>
<td>3.0 - 7.0 %</td>
<td>Skin Sens. 1B ; H317</td>
</tr>
<tr>
<td>dibutyl maleate</td>
<td>105-76-0</td>
<td>3.0 - 7.0 %</td>
<td>Skin Sens. 1A ; H317</td>
</tr>
<tr>
<td>N,N-bis-(2-hydroxypropyl)-p-toluidine</td>
<td>38668-48-3</td>
<td>1.0 - 5.0 %</td>
<td>Acute Tox. 2 (oral); H300</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2A ; H319</td>
</tr>
</tbody>
</table>

4. First-aid measures

4.1. Description of first aid measures

General advice
Take off all contaminated clothing immediately. Medical treatment is necessary if symptoms occur which are obviously caused by skin or eye contact with the product or by inhalation of its vapours.

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing. If feeling unwell seek medical advice.

Skin contact
IF ON SKIN: Wash with plenty of water/ soap. Take off contaminated clothing and wash before reuse. If skin irritation occurs consult a physician.

Eye contact
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, contact a physician.

Ingestion
IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse out mouth.

4.2. Most important symptoms and effects, both acute and delayed

Product has dermal defatting effect. Excessive or prolonged exposure can cause the following:; loss of coordination, nausea, Headache, skin irritation possible, difficulty breathing.
4.3. Indication of any immediate medical attention and special treatment needed

If ingested, irrigate the stomach. If the product has been swallowed or vomited danger of penetration into the lung (danger of aspiration).

5. Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media  dry chemical, carbon dioxide, alcohol-resistant foam
Unsuitable extinguishing media  water

5.2. Specific hazards arising from the chemical

Products or compounds possibly released in case of fire: Carbon oxides organic products of decomposition

5.3. Special protective equipment and precautions for fire-fighters

Evacuate enclosed and surrounding areas. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Use water spray to cool containers exposed to fire and disperse vapors. Keep spills away from sources of ignition.

Vapours are heavier than air and can form an explosive mixture with air. Also keep emptied containers away from sources of heat and ignition. Keep out unprotected persons. In case of fire, remove the endangered barrels and bring to a safe place, if this can be done safely. Containers exposed to heat (fire) may build up pressure. Cool by splashing with water. Prevent fire extinguishing water from contaminating surface water or the ground water system. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Assure sufficient ventilation. Use personal protective clothing. Keep away sources of ignition. Use breathing apparatus if exposed to vapours/dust/mist/aerosol.

6.2. Environmental precautions

Prevent product from getting into drains/surface water/groundwater.

6.3. Methods and materials for containment and cleaning up

Remove all sources of ignition. Assure sufficient ventilation. Larger quantities: Remove mechanically (by pumping). Use explosion-proof equipment! Smaller quantities and/or residues: Contain with absorbent material (e.g. sand, diatomaceous earth, acid absorbent, universal absorbent or sawdust). Dispose of in accordance with regulations.

6.4. Reference to other sections

For personal protection see section 8.
7. Handling and storage

7.1. Precautions for safe handling

Safe handling advice
Keep container tightly closed. Provide good room ventilation even at ground level (vapours are heavier than air).
Use portable ventilation if necessary at job site. Product is supplied in a stabilized form. Open container carefully as it may be pressurized. Stir well before decanting from drum. Ground and bond containers when transferring material. Use explosion-proof equipment. Do not eat, drink, smoke or chew tobacco around material.

Advice on protection against fire and explosion
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use only explosion-proof equipment. Use only spark-proof tools. In the event of fire, cool the endangered containers with water. When heated above the flash point and/or during spraying (atomizing), ignitible mixtures may form in air.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers
Keep containers tightly closed in a cool, well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Protect from the action of light. Keep away from heat. Fill the container by approximately 90 % only as oxygen (air) is required for stabilisation. With large storage containers make sure the oxygen (air) supply is sufficient to ensure stability. Keep in the original container at a temperature not exceeding 25 °C (77 °F).

Further information
Improper disposal or re-use of this container may be dangerous and illegal.

8. Exposure controls/personal protection

8.1. Control parameters
## Exposure Limit Information

### METHYL METHACRYLATE

(CAS Number 80-62-6)

<table>
<thead>
<tr>
<th>Occupational Exposure Values</th>
<th>ACGIH TLV-TWA</th>
<th>50 ppm</th>
<th>205 mg/m3</th>
<th>Sensitiser</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH TLV-STEL</td>
<td>100 ppm</td>
<td>410 mg/m3</td>
<td></td>
<td>Sensitiser</td>
</tr>
<tr>
<td>OSHA PEL-TWA</td>
<td>100 ppm</td>
<td>410 mg/m3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSHA PEL-STEL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OEL-TWA (Alberta)</td>
<td>50 ppm</td>
<td>205 mg/m3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OEL-STEL (Alberta)</td>
<td>100 ppm</td>
<td>410 mg/m3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OEL-TWA (British Columbia)</td>
<td>50 ppm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OEL-STEL (British Columbia)</td>
<td>100 ppm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OEL-TWA (Ontario)</td>
<td>50 ppm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OEL-STEL (Ontario)</td>
<td>100 ppm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OEL-TWA (Quebec)</td>
<td>50 ppm</td>
<td>205 mg/m3</td>
<td></td>
<td>Sensitiser</td>
</tr>
<tr>
<td>OEL-STEL (Quebec)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OEL-TWA (Mexico)</td>
<td>100 ppm</td>
<td>410 mg/m3</td>
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<tr>
<td>OEL-STEL (Mexico)</td>
<td>125 ppm</td>
<td>510 mg/m3</td>
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<tr>
<td>OEL-STEL (Saskatchewan)</td>
<td>100 ppm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OEL-TWA (Saskatchewan)</td>
<td>50 ppm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OEL-STEL (Manitoba)</td>
<td>100 ppm</td>
<td></td>
<td></td>
<td>Sensitiser</td>
</tr>
<tr>
<td>OEL-TWA (Manitoba)</td>
<td>50 ppm</td>
<td></td>
<td></td>
<td>Sensitiser</td>
</tr>
</tbody>
</table>

**Remark(s):**
- Capable of causing respiratory, dermal or conjunctival sensitization.
- Carcinogen Category 4 - not classifiable as a human carcinogen
- The product may cause sensitization.

### DIBUTYL MALEATE

(CAS Number 105-76-0)

<table>
<thead>
<tr>
<th>Occupational Exposure Values</th>
<th>Short-Term ESL:</th>
<th>0.28 ppm</th>
<th>2.6 mg/m3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual ESL:</td>
<td>0.028 ppm</td>
<td>0.26 mg/m3</td>
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</tr>
</tbody>
</table>
### N,N-BIS-(2-HYDROXYPROPYL)-P-TOLUIDINE
**CAS Number: 38668-48-3**

<table>
<thead>
<tr>
<th>Occupational Exposure Values</th>
<th>Remark(s):</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH TLV-TWA</td>
<td>not established</td>
</tr>
<tr>
<td>ACGIH TLV-STEL</td>
<td>not established</td>
</tr>
<tr>
<td>OSHA PEL-TWA</td>
<td>not established</td>
</tr>
<tr>
<td>OSHA PEL-STEL</td>
<td>not established</td>
</tr>
<tr>
<td>NIOSH REL-TWA</td>
<td>not established</td>
</tr>
<tr>
<td>NIOSH REL-STEL</td>
<td>not established</td>
</tr>
<tr>
<td>OEL-TWA (North Carolina)</td>
<td>not established</td>
</tr>
<tr>
<td>OEL-STEL (North Carolina)</td>
<td>not established</td>
</tr>
<tr>
<td>OEL-TWA (Alberta)</td>
<td>not established</td>
</tr>
<tr>
<td>OEL-STEL (Alberta)</td>
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<tr>
<td>OEL-TWA (British Columbia)</td>
<td>not established</td>
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<tr>
<td>OEL-STEL (British Columbia)</td>
<td>not established</td>
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<tr>
<td>OEL-TWA (Ontario)</td>
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</tr>
<tr>
<td>OEL-STEL (Ontario)</td>
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<tr>
<td>OEL-TWA (Quebec)</td>
<td>not established</td>
</tr>
<tr>
<td>OEL-STEL (Quebec)</td>
<td>not established</td>
</tr>
<tr>
<td>OEL-TWA (Mexico)</td>
<td>not established</td>
</tr>
<tr>
<td>OEL-STEL (Mexico)</td>
<td>not established</td>
</tr>
</tbody>
</table>

### 1,4-BUTANEDIOL DIMETHYL CARVYLATE
**CAS Number: 2082-81-7**

<table>
<thead>
<tr>
<th>Occupational Exposure Values</th>
<th>Remark(s):</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH TLV-TWA</td>
<td>not established</td>
</tr>
<tr>
<td>ACGIH TLV-STEL</td>
<td>not established</td>
</tr>
<tr>
<td>OSHA PEL-TWA</td>
<td>not established</td>
</tr>
<tr>
<td>OSHA PEL-STEL</td>
<td>not established</td>
</tr>
<tr>
<td>NIOSH REL-TWA</td>
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</tr>
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<td>NIOSH REL-STEL</td>
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</tr>
<tr>
<td>OEL-TWA (North Carolina)</td>
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<td>OEL-STEL (North Carolina)</td>
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</tr>
<tr>
<td>OEL-TWA (Alberta)</td>
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<tr>
<td>OEL-STEL (Alberta)</td>
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</tr>
<tr>
<td>OEL-TWA (British Columbia)</td>
<td>not established</td>
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<tr>
<td>OEL-STEL (British Columbia)</td>
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<tr>
<td>OEL-TWA (Ontario)</td>
<td>not established</td>
</tr>
<tr>
<td>OEL-STEL (Ontario)</td>
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</tr>
<tr>
<td>OEL-TWA (Quebec)</td>
<td>not established</td>
</tr>
<tr>
<td>OEL-STEL (Quebec)</td>
<td>not established</td>
</tr>
<tr>
<td>OEL-TWA (Mexico)</td>
<td>not established</td>
</tr>
<tr>
<td>OEL-STEL (Mexico)</td>
<td>not established</td>
</tr>
</tbody>
</table>
8.2. Exposure controls

Engineering controls

Provide general and/or local exhaust ventilation to maintain airborne levels below the exposure limits in Section 8. Refer to the current edition of ‘Industrial Ventilation: A Manual of Recommended Practice’ published by the American Conference of Government Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

8.3. Personal protective equipment

Protective measures

Avoid breathing vapors/dust/mist. Avoid contact with eyes and skin. Do not eat, drink or smoke during use.

A safety shower and eye wash fountaion should be readily available. To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR1910.132) be conducted before using this product.

Hygiene measures

Take off all contaminated clothing immediately. Store work clothing separately. Follow the usual good standards of occupational hygiene. Clean skin thoroughly after work; apply skin cream.

Respiratory protection

A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.

Hand protection

butyl rubber gloves (0.7 mm). Break through time 60 min (EN 374)
In practice, due to variable exposure conditions, this information can only be an aid to orientation for the selection of a suitable chemical protection glove. In particular, this information does not substitute suitability tests by the end user.

Splash protection

neoprene gloves

General information

Gloves should be replaced regularly, especially after extended contact with the product. For each work-place a suitable glove type has to be selected.

Eye protection

Use safety glasses (ANSI Z87.1 or approved equivalent).

Skin and body protection

On handling of larger quantities: face mask, chemical-resistant boots and apron

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Colour bluish, slightly turbid
Form liquid
Odor ester-like
Odour Threshold no data available

physical state liquid

Melting point/freezing point Paraffin Separation
< 15 °C
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling point/range</td>
<td>&lt; 59 °F</td>
</tr>
<tr>
<td>Boiling point/range</td>
<td>ca. 100 °C (1,013 hPa)</td>
</tr>
<tr>
<td>Boiling point/range</td>
<td>ca. 212 °F (1,013 hPa)</td>
</tr>
<tr>
<td>Flash point</td>
<td>10 °C (DIN 51755) (methyl methacrylate)</td>
</tr>
<tr>
<td>Flash point</td>
<td>50 °F (DIN 51755) (methyl methacrylate)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>430 °C (DIN 51794) (methyl methacrylate)</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>806 °F (DIN 51794) (methyl methacrylate)</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>no data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No decomposition if used as directed.</td>
</tr>
<tr>
<td>Impact Sensitivity</td>
<td>Not impact sensitive.</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>2.1 % (V) at 10,5°C / 33,8°F (methyl methacrylate)</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>12.5 % (V) (methyl methacrylate)</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>ca. 40 hPa (= mbar) at 20 °C / 68 °F</td>
</tr>
<tr>
<td>Density</td>
<td>1.00 g/cm³ at 20 °C / 68 °F</td>
</tr>
<tr>
<td>Relative density</td>
<td>no data available</td>
</tr>
<tr>
<td>Relative vapour density (related to air)</td>
<td>&gt; 1 (20 °C) (68 °F)</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>ca. 20 g/l at 20 °C / 68 °F</td>
</tr>
<tr>
<td>Solubility (quantitative)</td>
<td>no data available</td>
</tr>
<tr>
<td>Solubility (qualitative)</td>
<td>soluble in ethyl acetate</td>
</tr>
</tbody>
</table>
9.2. Other information

none

10. Stability and reactivity

10.1. Reactivity

see section 10.2.

10.2. Chemical stability

No decomposition if used as directed.

10.3. Possibility of hazardous reactions

Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions.

10.4. Conditions to avoid

Heat and ignition sources, aging, contamination, oxygen free atmosphere.

10.5. Incompatible materials

Peroxides, amines, sulfur compounds, heavy metal ions, alkalis, reducing agents and oxidizing agents.

10.6. Hazardous decomposition products

None when used as directed.

11. Toxicological information

11.1. Information on toxicological effects

toxicokinetics, metabolism and distribution no specific test data available

Acute Oral Toxicity

LD50 rat, OECD 401
> 5,000 mg/kg

Related to substance: methyl methacrylate
LD50 Rat, analogy OECD TG 401
> 5,000 mg/kg

(own study)
Related to substance: 1,4-butadiol dimethacrylate
<table>
<thead>
<tr>
<th>Safety Data Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSHA 1910.1200</td>
</tr>
<tr>
<td>Revision Date: 10/10/2015</td>
</tr>
<tr>
<td>Print Date: 10/10/2015</td>
</tr>
</tbody>
</table>

**#699**

<table>
<thead>
<tr>
<th>Acute Inhalational Toxicity</th>
<th>LD50 rat, 4 h</th>
<th>Related to substance: methyl methacrylate</th>
<th>29.8 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Dermal Toxicity</td>
<td>LD50 rabbit</td>
<td>Related to substance: methyl methacrylate</td>
<td>&gt; 5,000 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD50 rabbit</td>
<td>Related to substance: methyl methacrylate</td>
<td>&gt; 3,000 mg/kg</td>
</tr>
<tr>
<td></td>
<td>(analogy)</td>
<td>Related to substance: 1,4-butadiol dimethacrylate</td>
<td></td>
</tr>
<tr>
<td>Caustic burning / irritation of skin</td>
<td>Contact with skin may cause irritations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Contact with the eyes may cause irritation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory/skin sensitization</td>
<td>mouse, LLNA (OECD 429)</td>
<td>Related to substance: methyl methacrylate</td>
<td>sensitizing</td>
</tr>
<tr>
<td></td>
<td>In humans various types of allergic reactions have been observed (symptoms: headache, eye irritations, skin affections).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Related to substance: methyl methacrylate</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>In sensitisation test on guinea pig using adjuvants negative and positive results were found.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Related to substance: 1,4-butadiol dimethacrylate mouse, LLNA (OECD 429)</td>
<td>sensitizing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(own study) Related to substance: 1,4-butadiol dimethacrylate guinea pig, Magnusson-Kligman test</td>
<td>highly sensitising</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Related to substance: dibutyl maleate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>not applicable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mutagenicity assessment</td>
<td>Positive as well as negative results in <em>in vitro</em> mutagenicity/ genotoxicity tests.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No experimental indication of genotoxicity <em>in vivo</em> available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>In summary not mutagenic according to internationally accepted criteria. Related to substance: methyl methacrylate</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No indication of genotoxic effects from studies in several test systems. No experimental indication of genotoxicity <em>in vivo</em> available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>In summary not mutagenic according to internationally accepted criteria. Related to substance: 1,4-butadiol dimethacrylate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Carcinogenicity
Non-carcinogenic in inhalation and feeding studies carried out on rats, mice and dogs.
Related to substance: methyl methacrylate
Contains no carcinogenic substances as defined by NTP, IARC and/or OSHA.

### Reprotoxicity / teratogenicity
No indications of toxic effects were observed in reproduction studies in animals.
Related to substance: methyl methacrylate
No evidence of developmental toxicity of non-maternal toxic doses.
no evidence of teratogenic properties
At high exposures, fetotoxic effects were observed in animal tests.
Related to substance: 1,4-butandiol dimethacrylate

### CMR assessment

<table>
<thead>
<tr>
<th>Toxicity on Repeated Administration</th>
<th>Rate, inhalation, 2 Years</th>
<th>NOAEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Findings: damage to the nasal mucosa</td>
<td>25 ppm</td>
<td></td>
</tr>
<tr>
<td>Related to substance: methyl methacrylate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rat, in drinking water, 2 Years</td>
<td>2000 ppm</td>
<td></td>
</tr>
<tr>
<td>Findings: no toxic effects</td>
<td>NOAEL</td>
<td></td>
</tr>
<tr>
<td>Related to substance: methyl methacrylate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rat, oral, OECD 422</td>
<td>NOAEL</td>
<td></td>
</tr>
<tr>
<td>Related to substance: 1,4-butandiol dimethacrylate</td>
<td>300 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

Repeated exposure to high levels may produce liver and kidney damage.
Related to substance: dibutyl maleate

### General information
There are no toxicological data available for the product as such.
Avoid contact with the skin and eyes and inhalation of the product vapours.

### 12. Ecological information

#### 12.1. Toxicity

**Aquatic Toxicity, fish**
- LC50 Oncorhynchus mykiss, rainbow trout, OECD 203, flow through, GLP, 96 h
  - Related to substance: methyl methacrylate
  - LC50 Oncorhynchus mykiss (rainbow trout), 48 h
  - Related to substance: dibutyl maleate
  - > 79 mg/l

**Aquatic Toxicity, invertebrates**
- EC50 Daphnia magna, OECD 202, 48 h
  - Related to substance: methyl methacrylate
  - EC50 Daphnia magna, 48 h
  - Related to substance: dibutyl maleate
  - 69 mg/l

**Aquatic Toxicity, algae / aquatic plants**
- EC3 Scenedesmus quadricauda, DIN 38412 section 9, 8 d
  - Related to substance: methyl methacrylate
  - EC50 Scenedesmus subspicatus, 92/69/EEC, C 3, 72 h
  - Related to substance: (2-hydroxy-4-m ethoxyphenyl)phenyl-methanone
  - EC50 Scenedesmus subspicatus, 72 h
  - Related to substance: dibutyl maleate
  - 37 mg/l

- 1.4 mg/l

- 6.2 mg/l
12.2. Persistence and degradability

Biodegradability: biodegradable (monomer constituent)

12.3. Bioaccumulative potential

Bioaccumulation: no evidence for hazardous properties

12.4. Mobility in soil

Mobility: no specific test data available

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment:
- PBT: no
- vPvB: no

12.6. Other adverse effects

General Information: Prevent substance from entering soil, natural bodies of water and sewer systems.

13. Disposal considerations

13.1. Waste treatment methods

Product: Waste must be disposed of in accordance with federal, state and local regulations. Incineration is the preferred method. Empty containers must be handled with care due to product residue. DO NOT HEAT OR CUT THE EMPTY CONTAINER WITH ELECTRIC OR GAS TORCH.

Uncleaned packaging: Contaminated packages must be emptied as good as possible. They may then be recycled after proper cleaning. Packages that cannot be cleaned must be disposed of in the same way as the substance. Uncontaminated packaging may be taken for recycling.

14. Transport information

**US DOT Hazard Classification**

ID/UN Number: 1866
Proper Shipping Name: RESIN SOLUTION
Hazard Class: 3
Packing Group: II

**Canadian TDG Classification**

Refer to the classification US DOT

**Shipment by sea IMDG/GGVS/e**

UN number: 1866
15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

INVENTORY INFORMATION
REACH (EU) preregistered, registered or exempted
TSCA (USA) listed or exempted
DSL (CDN) listed or exempted
AICS (US) listed or exempted
METI (J) listed or exempted
ECL (KOR) listed or exempted
PICCS (RP) listed or exempted
IECSC (CN) listed or exempted
HSNO (NZ) listed or exempted
ECS (Taiwan) listed or exempted

US FEDERAL REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>Component / CASRN</th>
<th>TPQ [lbs]</th>
<th>CERCLA RQ [lbs] (40CF R302.4)</th>
<th>SARA 302 List of EHS</th>
<th>SARA 313 (40CFR372)</th>
<th>TSCA 12b</th>
</tr>
</thead>
<tbody>
<tr>
<td>methyl methacrylate / 80-62-6</td>
<td>NONE</td>
<td>1000</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>

COMPONENT CLASSIFICATION UNDER CLEAN AIR ACT SECTION 112

<table>
<thead>
<tr>
<th>Component / CASRN</th>
<th>Weight %</th>
<th>HAP</th>
<th>EHAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>methyl methacrylate / 80-62-6</td>
<td>YES</td>
<td></td>
<td>NO</td>
</tr>
</tbody>
</table>

PRODUCT CLASSIFICATION UNDER SECTION 311/312 OF SARA (40CFR370)

ACUTE, FIRE,

US STATE REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>Component / CASRN</th>
<th>New Jersey RTK</th>
<th>Pennsylvania RTK</th>
<th>Massachusetts RTK</th>
<th>California Proposition 65 Cancer</th>
<th>California Proposition 65 Reproductive</th>
</tr>
</thead>
</table>
#699

<table>
<thead>
<tr>
<th>Component / CASRN</th>
<th>NTRI</th>
<th>Component / CASRN</th>
<th>NTRI</th>
</tr>
</thead>
<tbody>
<tr>
<td>methyl methacrylate / 80-62-6</td>
<td>YES</td>
<td>methyl methacrylate / 80-62-6</td>
<td>YES</td>
</tr>
<tr>
<td>acrylic polymer / trade secret</td>
<td>NO</td>
<td>acrylic polymer / trade secret</td>
<td>NO</td>
</tr>
<tr>
<td>dibutyl maleate / 105-76-0</td>
<td>NO</td>
<td>dibutyl maleate / 105-76-0</td>
<td>NO</td>
</tr>
<tr>
<td>N,N-bis-(2-hydroxypropyl)-p-toluidine / 38668-48-3</td>
<td>NO</td>
<td>N,N-bis-(2-hydroxypropyl)-p-toluidine / 38668-48-3</td>
<td>NO</td>
</tr>
<tr>
<td>1,4-butanediol dimethacrylate / 2082-81-7</td>
<td>NO</td>
<td>1,4-butanediol dimethacrylate / 2082-81-7</td>
<td>NO</td>
</tr>
<tr>
<td>(2-hydroxy-4-methoxyphenyl)phenylmethylmethanone / 131-57-7</td>
<td>NO</td>
<td>(2-hydroxy-4-methoxyphenyl)phenylmethylmethanone / 131-57-7</td>
<td>NO</td>
</tr>
</tbody>
</table>

**CANADIAN REGULATION**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation and the MSDS contains all information required by the Controlled Products Regulations.

This is a controlled product.

**WHMIS:** B2, D1B, D2B

<table>
<thead>
<tr>
<th>Component / CASRN</th>
<th>NTRI</th>
</tr>
</thead>
<tbody>
<tr>
<td>methyl methacrylate / 80-62-6</td>
<td>YES</td>
</tr>
<tr>
<td>1,4-butanediol dimethacrylate / 2082-81-7</td>
<td>NO</td>
</tr>
</tbody>
</table>

16. **Other Information**

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Physical Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMIS -Ratings</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>NFPA -Ratings</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

**HMIS Hazard Ratings**

4 = severe
3 = serious
2 = moderate
1 = slight
0 = minimal
N = no rating for powders
* = chronic health hazard

**NFPA Hazard Ratings**

4 = extreme
3 = high
2 = moderate
1 = slight
0 = insignificant
N = no rating for powders

Relevant **H phrases from chapter 3** methyl methacrylate

<table>
<thead>
<tr>
<th>H225</th>
<th>Highly flammable liquid and vapour.</th>
</tr>
</thead>
<tbody>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation.</td>
</tr>
</tbody>
</table>
1,4-butanediol dimethacrylate
H317 May cause an allergic skin reaction.
dIBUTYL MALEATE
H317 May cause an allergic skin reaction.
H373 May cause damage to organs through prolonged or repeated exposure.
N,N-Bis-(2-hydroxypropyl)-p-toluidine
H300 Fatal if swallowed.
H319 Causes serious eye irritation.

References

relevant manuals and publications
own examinations
own toxicological and ecotoxicological studies
toxicological and ecotoxicological studies of other manufacturers
SIAR
OECD-SIDS
RTK public files

Revision Date
12/02/2014

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Legend
ACC American Chemistry Council
ACGIH American Conference of Governmental Industrial Hygienists
ACS Advisory Committee on Sustainability
ADI Acceptable Daily Intake
ASTM American Society for Testing and Materials
ATP Adaptation to Technical Progress
BCF Bioconcentration factor
BOD Biochemical oxygen demand
c.c. closed cup
CAO Cargo Aircraft Only
Carc Carcinogen
CAS Chemical Abstract Services
CDN Canada
CEPA Canadian Environmental Protection Act
CERCLA Comprehensive Environmental Response – Compensation and Liability Act
CFR Code of Federal Regulations
CMR Carcinogenic/c-mutagenic-toxic for reproduction
COD Chemical oxygen demand
DIN German Institute for Standardization
DME Limit derived minimum effect level
DNEL Derived no effect level
DOT Department of Transportation
EC50 half maximum effective concentration
EPA Environment Protection Agency
EC50 Reduction of Growth Rate
ERG Emergency Response Guide Book
FDA Food and Drug Administration
GHS Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
GLP Good Laboratory Practice
GMO Genetic Modified Organism
HCS Hazard Communication Standard
HMIS Hazardous Materials Identification System
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IBC Intermediate Bulk Container
ICAO-TC International Civil Aviation Organization - Technical Instructions
ICCA International Council of Chemical Association
ID Identification number
IMDG International Maritime Dangerous Goods
IUPAC International Union of Pure and Applied Chemistry
ISO International Organization For Standardization
LC50 50 % Lethal Concentration
LD50 50 % Lethal Dose
L(EC50) LC50 or EC50
LOAEL Lowest observed adverse effect level
LOEL Lowest observed effect level
MARPOL International Convention for the Prevention of Pollution from Ships
NFPA National Fire Protection Association
NOAEL No observed adverse effect level
NOEC No observed effect concentration
NOEL No observed effect level
o.c. open cup
OECD Organisation for Economic Cooperation and Development
OEL Occupational Exposure Limit
OSHA Occupational Safety and Health Administration
PBT Persistent, bioaccumulative, toxic
PEC Predicted effect concentration
PNEC Predicted no effect concentration
RQ Reportable Quantity
SDS Safety Data Sheet
STOT Specific Target Organ Toxicity
UN United Nations
vPvB very persistent, very bioaccumulative
voc volatile organic compound
WHMIS Workplace Hazardous Materials Information System
WHO World Health Organization