Cured Thermoset Resin Products Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier
   - Article; Cured Thermoset Resin Products

1.2 Relevant identified uses of the substance or mixture and uses advised against
   - Fiberglass reinforced plastic (FRP) piping systems; including fittings, adhesives, and resins.

1.3 Details of the supplier of the safety data sheet
   - NOV Fiber Glass Systems
     17115 San Pedro Avenue, Suite 200
     San Antonio, Texas  78232 USA
     Tel:  1-210-477-7500
     Fax:  1-210-231-5915
     E-mail: Mike.Thayer@nov.com

1.4 Emergency telephone number(s)
   - 3E Company, 24-Hour Support (Access Code/Contract Number: 333386)
     • USA, Canada .............................. 1-888-298-2344
     • Asia, Pacific ................................ 1-760-476-3960
     • Europe, Middle East, Africa .......... 1-760-476-3961
     • Americas .................................... 1-760-476-3962

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

   Physical
   - Not classified

   Health
   - Not classified

   Environmental
   - Not classified
2.2 Label elements

Signal Word(s)
- None

Pictogram(s)
- None

Hazard Statements
- None

Precautionary Statements
- None

2.3 Other Hazards

- PBT and vPvB assessment
  - None of the ingredients are considered to be either PBT or vPvB.
  - Warning: May form combustible dust concentrations in air when sanded, grinded, or cut.

SECTION 3: Composition/information on Ingredients

3.1 Substances
- Not applicable

3.2 Mixtures

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>Concentration Range (weight %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cured Thermoset Resin</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>30 – 100</td>
</tr>
<tr>
<td>Glass Fiber</td>
<td>065997-17-3</td>
<td>266-046-0</td>
<td>0 – 70</td>
</tr>
<tr>
<td>Other fillers (refer to specific product SDS)</td>
<td>Various</td>
<td>Various</td>
<td>0 – 25</td>
</tr>
<tr>
<td>Substances that do not meet the classification and labeling criteria established under the GHS</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Balance</td>
</tr>
</tbody>
</table>

SECTION 4. First-aid measures

Cured thermoset resin products do not pose any significant health hazards related to inhalation, skin contact, eye contact, or ingestion unless the article is disturbed by sanding, cutting, grinding, etc.
4.1 Description of first-aid measures

Inhalation
- Move to fresh air
- If difficulty in breathing or respiratory irritation; seek immediate medical attention
- If breathing has stopped; seek immediate medical attention, perform artificial respiration

Skin contact
- Wash affected area thoroughly with soap and water for at least 20 minutes
- If irritation develops or persists; seek medical attention

Eye contact
- Immediately flush with water for at least 20 minutes
- Remove contact lenses, if present
- If irritation develops or persists; seek medical attention

Ingestion
- Do not induce vomiting unless directed to do so by medical personnel
- Never give anything by mouth to an unconscious person
- If symptoms persist, seek immediate medical attention

4.2 Most Important symptoms and effects, both acute and delayed

Acute
- Dusts may cause temporary mechanical irritation to the eyes, skin, and respiratory tract. Accidental ingestion may cause illness or irritation to the mouth and gastrointestinal tract.

Delayed
- No specific data available.

4.3 Indication of any immediate medical attention and special treatment needed
- Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media
- Water spray, alcohol-resistant foam, dry chemical, carbon dioxide.

5.2 Specific hazards arising from the substance or mixture
- Avoid generating dust; fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazed.
- On combustion, may emit toxic fumes of carbon monoxide (CO).

5.3 Advice for firefighters
- Wear self-contained breathing apparatus and protective clothing, as necessary.
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
- Wear appropriate personal protective equipment and clothing to reduce or eliminate contact.

6.2 Environmental precautions
- Cured thermoset resin is generally considered to be an inert solid; no special precautions identified.

6.3 Methods and materials for containment and cleaning up
- Collect spilled material by intrinsically safe (explosion-proof) vacuum or sweeping and place into suitable container for disposal.

6.4 Reference to other sections
- See also, SECTION 8: Control parameters and SECTION 13: Disposal considerations.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
- No specific data available.

7.2 Conditions for safe storage, including any incompatibilities
- No specific data available.

7.3 Specific end use(s)
- No additional data available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Glass Fiber (continuous filament glass fibers)</th>
<th>CAS No. 065997-17-3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Country</strong></td>
<td><strong>Occupational Exposure Limit (OEL) Values</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Eight Hour TWA</strong></td>
</tr>
<tr>
<td>Australia</td>
<td>2 mg/m$^3$ (inhalable dust)</td>
</tr>
<tr>
<td>Canada – British Columbia</td>
<td>1 fiber/cc</td>
</tr>
<tr>
<td>Country</td>
<td>Occupational Exposure Limit (OEL) Values</td>
</tr>
<tr>
<td>----------------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Eight Hour TWA</td>
</tr>
<tr>
<td>Austria</td>
<td>10 mg/m³ (inhalable)</td>
</tr>
<tr>
<td>Belgium</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Canada - Alberta</td>
<td>10 mg/m³ (total)</td>
</tr>
<tr>
<td>Canada – British</td>
<td>10 mg/m³ (total dust)</td>
</tr>
<tr>
<td>Columbia</td>
<td>3 mg/m³ (respirable)</td>
</tr>
<tr>
<td>Canada - Manitoba</td>
<td>10 mg/m³ (inhalable)</td>
</tr>
<tr>
<td>Canada - Ontario</td>
<td>10 mg/m³ (inhalable)</td>
</tr>
<tr>
<td>Canada - Quebec</td>
<td>10 mg/m³ (total dust)</td>
</tr>
<tr>
<td>China</td>
<td>3 mg/m³ (fiberglass reinforced plastic dust)</td>
</tr>
<tr>
<td>Ireland</td>
<td>10 mg/m³ (inhalable)</td>
</tr>
<tr>
<td>Malaysia</td>
<td>10 mg/m³ (inhalable)</td>
</tr>
<tr>
<td>New Zealand</td>
<td>10 mg/m³ (inhalable)</td>
</tr>
<tr>
<td>Singapore</td>
<td>10 mg/m³ (nuisance)</td>
</tr>
</tbody>
</table>

[1] This material is incorporated into the cured thermoset resin product and exposure via inhalation is not likely to occur unless the product is subjected to finishing operations such as sanding, grinding, cutting, etc.

**Particulates not otherwise classified/regulated (PNOC / PNOR)** (may be generated if cured thermoset resin product is subjected to sanding, grinding, cutting, etc.)

**CAS No. – Not applicable**
<table>
<thead>
<tr>
<th>Country</th>
<th>Exposure Limit</th>
<th>Limit Type</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Korea</td>
<td>10 mg/m³</td>
<td>None established</td>
<td>[Need reference]</td>
</tr>
<tr>
<td>USA (ACGIH)</td>
<td>10 mg/m³³ (inhalable) 3 mg/m³³ (respirable)</td>
<td>None established</td>
<td>None</td>
</tr>
<tr>
<td>USA (OSHA)</td>
<td>15 mg/m³³ (total dust) 5 mg/m³³ (respirable)</td>
<td>None established</td>
<td>29 CFR 1910 Subpart Z, Toxic and Hazardous Substances</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>10 mg/m³³ (inhalable) 4 mg/m³³ (respirable)</td>
<td>None established</td>
<td>EH40 Workplace exposure limits</td>
</tr>
</tbody>
</table>

### 8.2 Exposure controls

The recommendations below should be generally considered when sanding, cutting, grinding, etc. cured thermoset resin products where the possibility of dust generation exists.

**Appropriate engineering controls**

- Provide adequate general and local exhaust ventilation to control airborne concentrations to below the occupational exposure limit values.
- When sanding, cutting, grinding the cured product, it is recommended that all dust control equipment contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment.

**Personal protective equipment**

- Eye and face protection
  - Approved safety glasses with side shields (e.g., ANSI Z87, EN166)
- Skin protection
  - Such gloves and/or clothing as to minimize or eliminate the chance of skin contact with generated dust.
- Respiratory protection
  - If ventilation is insufficient to keep airborne concentrations below the occupation exposure limit levels, full or half-mask respirator fitted with particulate filters (for sanding, grinding, cutting, etc. cured material). Filter masks may be of limited use in cases of high or unknown exposure.

**Environmental exposure controls**

- No specific data available.

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Varies by product</td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td>No data available</td>
</tr>
</tbody>
</table>
- Evaporation rate Not applicable
- Flammability (solid, gas) Not applicable
- Upper/lower flammability or explosive limits No data available
- Vapor pressure No data available
- Vapor density (air = 1) No data available
- Relative density No data available
- Solubility(ies) No data available
- Partition coefficient: n-octanol/water No data available
- Auto-ignition temperature No data available
- Decomposition temperature Not applicable
- Viscosity Varies by product
- Explosive properties No data available
- Oxidizing properties No data available

9.2 Other information
- No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity
- No data available.

10.2 Chemical stability
- Product is stable.

10.3 Possibility of hazardous reactions
- Hazardous reactions will not occur.

10.4 Conditions to avoid
- Excessive heat and flames.

10.5 Incompatible materials
- No data available.

10.6 Hazardous decomposition products
- No data available.
SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
- Data for ingredients were not found or not sufficient for classification.

Skin corrosion/irritation
- Data for ingredients were not found or not sufficient for classification.

Serious eye damage/irritation
- Data for ingredients were not found or not sufficient for classification.

Respiratory or skin sensitization
- Data for ingredients were not found or not sufficient for classification.

Germ cell mutagenicity
- Data for ingredients were not found or not sufficient for classification.

Carcinogenicity
- Data for ingredients were not found or not sufficient for classification.

Reproductive toxicity
- Data for ingredients were not found or not sufficient for classification.

STOT-single exposures
- Respiratory system Irritation possibly if exposed to dusts generated from sanding, cutting, grinding, etc.

STOT-repeated exposures
- Data for ingredients were not found or not sufficient for classification.

Aspiration hazard
- Data for ingredients were not found or not sufficient for classification.

SECTION 12: Ecological information

12.1 Toxicity

Acute toxicity
- Data for ingredients were not found or not sufficient for classification.

Chronic toxicity
- Data for ingredients were not found or not sufficient for classification.
12.2 Persistence and degradability
   - Data for ingredients were not found or not sufficient for classification.

12.3 Bioaccumulative potential
   - Data for ingredients were not found or not sufficient for classification.

12.4 Mobility in soil
   - Data for ingredients were not found or insufficient for classification.

12.5 Results of PBT and vPvB assessment
   - None of the ingredients are listed.

12.6 Other adverse effects
   - No additional data is available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
   - Must be disposed of in accordance with local regulatory requirements.

SECTION 14: Transport information

- The transport information provided below conforms to the following:
  - UN Model Regulations
  - International Carriage of Dangerous Goods by Road (ADR)
  - International Carriage of Dangerous Goods by Rail (RID)
  - International Carriage of Dangerous Goods by Inland Waterways (ADN)
  - International Maritime Dangerous Goods (IMDG) Code
  - International Civil Aviation Organization (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods by Air

14.1 UN number                        None
14.2 UN proper shipping name           Not regulated
14.3 Transport hazard class(es)        None
14.4 Packing group                     None
14.5 Environmental hazards             None
14.6 Special precautions for user      None
SECTION 15: Regulatory information

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

The regulatory information provided below may not be comprehensive.

Canada

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

Ingredient Disclosure List (IDL)
- All components of this mixture that are on the IDL above their specified concentration are disclosed in this SDS.

United States

<table>
<thead>
<tr>
<th>EPCRA</th>
<th>CERCLA</th>
<th>RCRA</th>
<th>CAA</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 302 (EHS) TPQ (LB/KG)</td>
<td>Section 304 RQ (LB/KG)</td>
<td>Section 313</td>
<td>RQ (LB/KG)</td>
<td>P/U Codes</td>
</tr>
<tr>
<td>Highly Hazardous Chemical</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

None of the ingredients are listed

15.2 Chemical safety assessment
- No chemical safety assessment has been carried out for this mixture by the supplier.

SECTION 16: Other information

Revision history

<table>
<thead>
<tr>
<th>Revision Number</th>
<th>Revision Date</th>
<th>Revision Description</th>
</tr>
</thead>
</table>

Legend to abbreviations and acronyms used
- ACGIH American Conference of Governmental Industrial Hygienists
- ANSI American National Standards Institute
- CAA Clean Air Act
- CFR Code of Federal Regulations (US)
- EPCRA Emergency Planning and Community Right-to-Know Act
- IARC International Agency for Research on Cancer
- IBC Code International Bulk Chemical Code
- MARPOL Marine Pollution
- NIOSH National Institute for Occupational Safety and Health
- NTP National Toxicological Program
- OSHA Occupational Safety and Health Administration (US)
- PBT Persistent Bioaccumulative and Toxic
- RCRA Resource Conservation and Recovery Act
- vPvB very Persistent and very Bioaccumulative

Key literature references and sources for data

- USEPA. 2006. List of Lists, Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-To-Know Act (EPCRA) and Section 112(r) of the Clean Air Act. EPA 550-B-01-003. October 2006.