VE-CURING AID
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Date of issue: 01/12/2016

SECTION 1: Identification

1.1. Identification
Product form : Mixture
Product name : VE-CURING AID
Product code : VE-CURING AID
Other means of identification: VE-CURING AID/1, VE-CURING AID/5, VE-CURING AID/50

1.2. Relevant identified uses of the substance or mixture and uses advised against
No additional information available

1.3. Details of the supplier of the safety data sheet
Protective Industrial Polymers
7875 Bliss Parkway
North Ridgeville, Ohio 44039 - USA - Ohio
T 440-327-0015
www.protectpoly.com

1.4. Emergency telephone number
Emergency number: Chemtrec: 800-427-9300 (Outside USA) 703-527-3887

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture
GHS-US classification
- Flammable liquids, Category 3
- Acute toxicity (oral), Category 4
- Skin corrosion/irritation, Category 2
- Serious eye damage/eye irritation, Category 2A
- Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation

Full text of H statements : see section 16

2.2. Label elements
GHS-US labelling
Hazard pictograms (GHS-US):
- GHS02
- GHS07

Signal word (GHS-US) : Warning
Contains : Styrene
Hazard statements (GHS-US):
- H226 - Flammable liquid and vapour
- H302 - Harmful if swallowed
- H315 - Causes skin irritation
- H319 - Causes serious eye irritation
- H335 - May cause respiratory irritation

Precautionary statements (GHS-US):
- P210 - Keep away from sparks. - No smoking
- P233 - Keep container tightly closed
- P240 - Ground/bond container and receiving equipment
- P241 - Use explosion-proof electrical equipment
- P242 - Use only non-sparking tools
- P243 - Take precautionary measures against static discharge
- P261 - Avoid breathing vapours
- P264 - Wash hands, forearms and face thoroughly after handling
- P270 - Do not eat, drink or smoke when using this product
- P271 - Use only outdoors or in a well-ventilated area
- P280 - Wear protective clothing
- P301+P312 - If swallowed: Call a POISON CENTER if you feel unwell
- P302+P352 - If on skin: Wash with plenty of soap
- P303+P361+P333 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
VE-CURING AID
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

2.3. Other hazards
No additional information available

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance
Not applicable

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Styrene</td>
<td>(CAS No) 100-42-5</td>
<td>85 - 95</td>
<td>Flam. Liq. 3, H226, Acute Tox. 4 (Oral), H302, Skin Irrit. 2, H315, Eye Irrit. 2A, H319, STOT SE 3, H335, Asp. Tox. 1, H304</td>
</tr>
<tr>
<td>Parrafin Wax</td>
<td>(CAS No) 8002-74-2</td>
<td>10 - 20</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general: Call a poison center or a doctor if you feel unwell.
First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.
First-aid measures after skin contact: Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact: 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.
First-aid measures after ingestion: Rinse mouth. Call a poison center or a doctor if you feel unwell.

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

Symptoms/injuries after inhalation: May cause respiratory irritation.
Symptoms/injuries after skin contact: Irritation.
Symptoms/injuries after eye contact: Eye irritation.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.2. Special hazards arising from the substance or mixture

Fire hazard: Flammable liquid and vapour.
Reactivity: Flammable liquid and vapour.

5.3. Advice for firefighters
Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
VE-CURING AID
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 6: Accidental release measures
6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Emergency procedures: Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid breathing vapours. Avoid contact with skin and eyes.

6.1.2. For emergency responders
Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections
For further information refer to section 13.

SECTION 7: Handling and storage
7.1. Precautions for safe handling
Precautions for safe handling: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing vapours. Avoid contact with skin and eyes.

Hygiene measures: Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities
Technical measures: Ground/bond container and receiving equipment.

Storage conditions: Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

SECTION 8: Exposure controls/personal protection
8.1. Control parameters

<table>
<thead>
<tr>
<th>VE-CURING AID</th>
<th>DNEL</th>
<th>DNEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Styrene (100-42-5)</td>
<td>ACGIH TWA (ppm)</td>
<td>20 ppm (Styrene, monomer; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)</td>
</tr>
<tr>
<td>ACGIH STEL (ppm)</td>
<td>40 ppm (Styrene, monomer; USA; Short time value; TLV - Adopted Value)</td>
<td></td>
</tr>
</tbody>
</table>

ACGIH Remark (ACGIH) | CNS impair; URT irr; peripheral |

OSHA Remark (OSHA) | (2) See Table Z-2. |

Paraffin Wax (8002-74-2) |

ACGIH TWA (mg/m³) | 2 mg/m³ |

ACGIH Remark (ACGIH) | URT irr; nausea |

8.2. Exposure controls
Appropriate engineering controls: Ensure good ventilation of the work station.

Hand protection: Protective gloves.

Eye protection: Safety glasses.

Skin and body protection: Wear suitable protective clothing.

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment.

Environmental exposure controls: Avoid release to the environment.
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>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Liquid: colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>Characteristic odour</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>88 °F</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Solubility:
- Water: Solubility in water of component(s) of the mixture:
  - Styrene: 0.030 g/100ml

Log Pow: No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

Viscosity, kinematic: No data available

Viscosity, dynamic: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable liquid and vapour.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity:
- Oral: Harmful if swallowed.

### VE-CURING AID

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>1000 mg/kg</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>1000.000 mg/kg bodyweight</td>
</tr>
</tbody>
</table>
## Styrene (100-42-5)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>5000 mg/kg (Rat; Literature study; &gt;6000 mg/kg bodyweight; Rat; Weight of evidence)</td>
</tr>
<tr>
<td>LD50 dermal rat</td>
<td>2820 mg/kg (Rat; Literature study; OECD 402: Acute Dermal Toxicity; &gt;2000 mg/kg bodyweight; Rat; Experimental value)</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>5010 mg/kg (Rabbit; Literature study)</td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
<td>12 mg/l/4h (Rat; Literature study)</td>
</tr>
<tr>
<td>LC50 inhalation rat (ppm)</td>
<td>2770 ppm/4h (Rat; Literature study)</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>500.000 mg/kg bodyweight</td>
</tr>
<tr>
<td>ATE US (dermal)</td>
<td>2820.000 mg/kg bodyweight</td>
</tr>
<tr>
<td>ATE US (gases)</td>
<td>2770.000 ppmv/4h</td>
</tr>
<tr>
<td>ATE US (vapours)</td>
<td>12.000 mg/l/4h</td>
</tr>
<tr>
<td>ATE US (dust,mist)</td>
<td>12.000 mg/l/4h</td>
</tr>
</tbody>
</table>

### Skin corrosion/irritation
- Causes skin irritation.

### Serious eye damage/irritation
- Causes serious eye irritation.

### Respiratory or skin sensitisation
- Not classified

### Germ cell mutagenicity
- Not classified

### Carcinogenicity
- Not classified

### IARC group
- 2B - Possibly carcinogenic to humans

### National Toxicology Program (NTP) Status
- 3 - Reasonably anticipated to be Human Carcinogen

### Reproductive toxicity
- Not classified

### Specific target organ toxicity (single exposure)
- May cause respiratory irritation.

### Specific target organ toxicity (repeated exposure)
- Not classified

### Aspiration hazard
- Not classified

### Symptoms/injuries after inhalation
- May cause respiratory irritation.

### Symptoms/injuries after skin contact
- Irritation.

### Symptoms/injuries after eye contact
- Eye irritation.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

### 12.2. Persistence and degradability

#### Styrene (100-42-5)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>2.80 g O₂/g substance</td>
</tr>
<tr>
<td>ThOD</td>
<td>3.07 g O₂/g substance</td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
<td>0.42</td>
</tr>
</tbody>
</table>

### 12.3. Bioaccumulative potential

#### Styrene (100-42-5)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF fish 1</td>
<td>35.5 (BCF)</td>
</tr>
<tr>
<td>Log Pow</td>
<td>2.96 (Experimental value; OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method; 25 °C)</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>Low potential for bioaccumulation (BCF &lt; 500).</td>
</tr>
</tbody>
</table>

### 12.4. Mobility in soil

#### VE-CURING AID

Ecology - soil: No Data Available.
VE-CURING AID
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

**Styrene (100-42-5)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface tension</td>
<td>0.032 N/m (19 °C)</td>
</tr>
<tr>
<td>Log Koc</td>
<td>Koc.352; Estimated value; log Koc; 2.55; Estimated value</td>
</tr>
</tbody>
</table>

**12.5. Other adverse effects**

Effect on the global warming: No known ecological damage caused by this product.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

Waste treatment methods: Dispose of contents/container in accordance with licensed collector's sorting instructions.

Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations.

Additional information: Flammable vapours may accumulate in the container.

**SECTION 14: Transport information**

**Department of Transportation (DOT)**

In accordance with DOT

Transport document description: UN1866 Resin solution (flammable), 3, III

UN-No.(DOT): UN1866

Proper Shipping Name (DOT): Resin solution flammable

Class (DOT): 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Hazard labels (DOT): 3 - Flammable liquid

Packing group (DOT): III - Minor Danger

DOT Packaging Non Bulk (49 CFR 173.xxx): 173

DOT Packaging Bulk (49 CFR 173.xxx): 242

DOT Special Provisions (49 CFR 172.102): B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable. B52 - Notwithstanding the provisions of 173.24b of this subchapter, non-reclosing pressure relief devices are authorized on DOT 57 portable tanks. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31H21 and 31H22, 31H2, 31H2N2, 31H2D2 and 31H2H2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T2 - 1.5 178.274(d)(2) Normal............. 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / (1 + a (tr - tf)) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling

DOT Packaging Exceptions (49 CFR 173.xxx): 150

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27): 60 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75): 220 L

DOT Vessel Stowage Location: A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel

Emergency Response Guide (ERG) Number: 127

Other information: No supplementary information available.

**TDG**

No additional information available

02/16/2016 EN (English) 6/8
VE-CURING AID
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

**Transport by sea**
No additional information available

**Air transport**
No additional information available

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

| VE-CURING AID | Fire hazard  
|---------------|------------------|
|               | Delayed (chronic) health hazard  
|               | Immediate (acute) health hazard  

**Styrene (100-42-5)**
Listed on the United States TSCA (Toxic Substances Control Act) inventory

| Subject to reporting requirements of United States SARA Section 313  
| CERCLA RQ  
| 1000 lb  

**Parraffin Wax (8002-74-2)**
Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### 15.2. International regulations

**CANADA**

| VE-CURING AID | Class B Division 2 - Flammable Liquid  
|---------------|-----------------------------------|
|               | Class D Division 2 Subdivision A - Very toxic material causing other toxic effects  

**EU-Regulations**
No additional information available

**National regulations**

**Styrene (100-42-5)**
Listed on IARC (International Agency for Research on Cancer)
Listed as carcinogen on NTP (National Toxicology Program)

#### 15.3. US State regulations

**Styrene (100-42-5)**
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) List

**Parraffin Wax (8002-74-2)**
- U.S. - New Jersey - Right to Know Hazardous Substance List

### SECTION 16: Other information

**Other information**
Disclaimer: This SDS to the best of our knowledge conforms to the requirements of OSHA 20 CFR 1910.1200 and summarizes the health and safety hazard information and general guidance on how to safely handle the material at the date of issue. Each user must review the SDS in the context of how the product will be handled and used in the workplace.

Full text of H-statements:

<table>
<thead>
<tr>
<th>H-number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H226</td>
<td>Flammable liquid and vapour</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H304</td>
<td>May be fatal if swallowed and enters airways</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
</tbody>
</table>
# VE-CURING AID

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

**NFPA health hazard**: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

**NFPA fire hazard**: 3 - Liquids and solids that can be ignited under almost all ambient conditions.

**NFPA reactivity**: 2 - Normally unstable and readily undergo violent decomposition but do not detonate. Also: may react violently with water or may form potentially explosive mixtures with water.

### HMIS III Rating

**Health**: 2 Moderate Hazard - Temporary or minor injury may occur.

**Flammability**: 3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 F and boiling points above 100 F. as well as liquids with flash points between 73 F and 100 F. (Classes IB & IC)

**Physical**: 2 Moderate Hazard - Materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air.

**SDS US (GHS HazCom 2012)**

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.