### SECTION 1: Identification

1.1. Identification

<table>
<thead>
<tr>
<th>Product form</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name</td>
<td>VE-PR-FLEX</td>
</tr>
<tr>
<td>Product code</td>
<td>VE-PR-FLEX</td>
</tr>
<tr>
<td>Other means of identification</td>
<td>VE-PR-FLEX/50, VE-PR-FLEX/5SF</td>
</tr>
</tbody>
</table>

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: 800427-9300 (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 : H226
- Acute toxicity (oral), Category 4 : H302
- Skin corrosion/irritation, Category 2 : H315
- Serious eye damage/eye irritation, Category 2A : H319
- Carcinogenicity, Category 2 : H351
- Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation : H335

Full text of H statements : see section 16

2.2. Label elements

**GHS-US labelling**

- Hazard pictograms (GHS-US) :
  - GHS02
  - GHS07
  - GHS08

- Signal word (GHS-US) : Warning
- Contains : Styrene; cobalt(II) ethylhexanoate
- 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
  - H351 - Suspected of causing cancer

- Precautionary statements (GHS-US) :
  - P201 - Obtain special instructions before use
  - P202 - Do not handle until all safety precautions have been read and understood
  - 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
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>25 - 40</td>
<td>Flam. Liq. 3, H226</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Irrit. 2, H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2A, H319</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3, H335</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Asp. Tox. 1, H304</td>
</tr>
<tr>
<td>cobalt(II) ethylhexanoate</td>
<td>(CAS No) 136-52-7</td>
<td>0 - 1</td>
<td>Carc. 2, H351</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: IF exposed or concerned: Get medical advice/attention. 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

VE-PR-FLEX
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

5.2. Special hazards arising from the substance or mixture
   Fire hazard: Highly flammable liquid and vapour.
   Reactivity: Highly 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.

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. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. 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>Substance</th>
<th>ACGIH TWA (ppm)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Styrene (100-42-5)</td>
<td>20 ppm (Styrene, monomer; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)</td>
<td></td>
</tr>
<tr>
<td>cobalt(II) ethylhexanoate (136-52-7)</td>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>

8.2. Exposure controls
   Appropriate engineering controls: Ensure good ventilation of the work station.
   Hand protection: Protective gloves.
VE-PR-FLEX
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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>Colored</td>
</tr>
<tr>
<td>Odour</td>
<td>characteristic</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>≈ 293 °F</td>
</tr>
<tr>
<td>Flash point</td>
<td>≈ 85 °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>
<tr>
<td>Solubility</td>
<td>Water: Solubility in water of component(s) of the mixture:</td>
</tr>
<tr>
<td></td>
<td>• Styrene: 0.030 g/100ml  • N,N-dimethylaniline: 0.12 g/100ml (20 °C) • cobalt(II) ethylhexanoate: 4.03 g/100ml (20 °C) • Stoddard solvent: insoluble • 1,2-Benzenediol: 45 g/100ml • Methyl Hydroxide: &gt;= 100 g/100ml (20 °C)</td>
</tr>
</tbody>
</table>

Log Pow: No data available

SECTION 10: Stability and reactivity

10.1. Reactivity
Highly 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

**VE-PR-FLEX**

ATE US (oral) 1253.497 mg/kg bodyweight

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

LD50 oral rat 5000 mg/kg (Rat; Literature study; >6000 mg/kg bodyweight; Rat; Weight of evidence)

LD50 dermal rat 2820 mg/kg (Rat; Literature study; OECD 402: Acute Dermal Toxicity; >2000 mg/kg bodyweight; Rat; Experimental value)

LD50 dermal rabbit 5010 mg/kg (Rabbit; Literature study)

LC50 inhalation rat (mg/l) 12 mg/l/4h (Rat; Literature study)

LC50 inhalation rat (ppm) 2770 ppm/4h (Rat; Literature study)

ATE US (oral) 500.000 mg/kg bodyweight

ATE US (dermal) 2820.000 mg/kg bodyweight

ATE US (gases) 2770.000 ppmv/4h

ATE US (vapours) 12.000 mg/l/4h

ATE US (dust,mist) 12.000 mg/l/4h

**cobalt(II) ethylhexanoate (136-52-7)**

LD50 oral rat 3129 mg/kg bodyweight (Rat; OECD 425: Acute Oral Toxicity: Up-and-Down Procedure; Experimental value)

LD50 dermal rat > 2000 mg/kg bodyweight (Rat; Weight of evidence; OECD 402: Acute Dermal Toxicity)

ATE US (oral) 3129.000 mg/kg bodyweight

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

IARC group 2B - Possibly carcinogenic to humans

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

**cobalt(II) ethylhexanoate (136-52-7)**

IARC group 2B - Possibly carcinogenic to humans

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.

**cobalt(II) ethylhexanoate (136-52-7)**

LC50 fish 1 46.51 mg/l (LOEC; ASTM; 96 h; Pimephales promelas; Flow-through system; Fresh water; Read-across)

EC50 Daphnia 1 0.212 mg/l (NOEC; ASTM; 48 h; Ceriodaphnia dubia; Static system; Salt water; Read-across)

LC50 fish 2 54.1 mg/l (LC50; ASTM; 96 h; Pimephales promelas; Flow-through system; Fresh water; Read-across)
12.2. Persistence and degradability

Styrene (100-42-5)

Chemical oxygen demand (COD): 2.80 g O₂/g substance

ThOD: 3.07 g O₂/g substance

BOD (% of ThOD): 0.42

cobalt(II) ethylhexanoate (136-52-7)
Persistence and degradability: Readily biodegradable in water. No (test)data on mobility of the substance available.

12.3. Bioaccumulative potential

VE-PR-FLEX
Bioaccumulative potential: No test data available.

Styrene (100-42-5)
BCF fish 1: 35.5 (BCF)
Log Pow: 2.96 (Experimental value; OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method; 25 °C)
Bioaccumulative potential: Low potential for bioaccumulation (BCF < 500).

cobalt(II) ethylhexanoate (136-52-7)
BCF fish 1: 1.2 (BCF; 131 days; Seriola quinqueradiata; Static system; Salt water; Read-across)
Bioaccumulative potential: Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

Styrene (100-42-5)
Surface tension: 0.032 N/m (19 °C)
Log Koc: Koc,352; Estimated value; log Koc; 2.55; Estimated value

cobalt(II) ethylhexanoate (136-52-7)
Surface tension: 0.064 N/m (20 °C; 1 g/l)

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.
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 (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). 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

Transport by sea
No additional information available

Air transport
No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

<table>
<thead>
<tr>
<th>Chemical(s)</th>
<th>CAS No</th>
<th>Quantity Limit</th>
<th>Stowage Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Styrene (100-42-5)</td>
<td>100-42-5</td>
<td>25 - 40%</td>
<td>A</td>
</tr>
<tr>
<td>cobalt(II) ethylhexanoate (136-52-7)</td>
<td>1000 lb</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CERCLA RQ
No additional information available

VE-PR-FLEX
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Styrene
CAS No 100-42-5
25 - 40%

CERCLA RQ
1000 lb

01/20/2016 EN (English)
15.2. International regulations

CANADA

| WHMIS Classification | Class B Division 2 - Flammable Liquid
| Class D Division 2 Subdivision B - 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

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:

- **H226**: Flammable liquid and vapour
- **H302**: Harmful if swallowed
- **H304**: May be fatal if swallowed and enters airways
- **H315**: Causes skin irritation
- **H319**: Causes serious eye irritation
- **H335**: May cause respiratory irritation
- **H351**: Suspected of causing cancer

NFPA health hazard

2 - Moderate Hazard - Temporary or minor injury may occur

NFPA fire hazard

3 - Liquid 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