

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Product name : VE-FR-A CLEAR
 Product code : VE-FR-CLEAR

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 H226
 Category 3
 Acute toxicity H332
 (inhalation) Category 4
 Skin corrosion/irritation H315
 Category 2
 Serious eye H319
 damage/eye irritation
 Category 2A
 Carcinogenicity H350
 Category 1B
 Specific target organ H335
 toxicity (single
 exposure) Category 3
 Specific target organ H372
 toxicity (repeated
 exposure) Category 1
 Hazardous to the H412
 aquatic environment -
 Chronic Hazard
 Category 3

Full text of H statements : see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Contains :

Styrene; Stoddard solvent

Hazard statements (GHS-US) :

H226 - Flammable liquid and vapor
 H315 - Causes skin irritation
 H319 - Causes serious eye irritation
 H332 - Harmful if inhaled
 H335 - May cause respiratory irritation
 H350 - May cause cancer
 H372 - Causes damage to organs through prolonged or repeated exposure

VE-FR-A CLEAR

Safety Data Sheet

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

Precautionary statements (GHS-US)	H412 - Harmful to aquatic life with long lasting effects : P201 - Obtain special instructions before use P202 - Do not handle until all safety precautions have been read and understood P210 - Keep away from heat/sparks/open flames/hot surfaces. - 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 P260 - Do not breathe vapors P261 - Avoid breathing vapors 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 P273 - Avoid release to the environment P280 - Wear protective clothing P302+P352 - If on skin: Wash with plenty of soap P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P308+P313 - If exposed or concerned: Get medical advice/attention P312 - Call a doctor if symptoms persist. if you feel unwell P314 - Get medical advice/attention if you feel unwell P321 - Specific treatment (see a doctor if symptoms do not go away. on this label) P332+P313 - If skin irritation occurs: Get medical advice/attention P337+P313 - If eye irritation persists: Get medical advice/attention P362+P364 - Take off contaminated clothing and wash it before reuse P370+P378 - In case of fire: Use extinguishing powder to extinguish P403+P233 - Store in a well-ventilated place. Keep container tightly closed P403+P235 - Store in a well-ventilated place. Keep cool P405 - Store locked up P501 - Dispose of contents/container to in accordance with local regulations
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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

Name	Product identifier	%	GHS-US classification
Halogenated Vinyl Ester Resin	(CAS No) N/E	50 - 60	Not classified
Styrene	(CAS No) 100-42-5	39 - 43	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
cobalt(II) ethylhexanoate	(CAS No) 136-52-7	0.132 - 0.1	Carc. 2, H351

Full text of H-phrases: 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/doctor/physician if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician 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	: Call a poison center/doctor/physician if you feel unwell.

VE-FR-A CLEAR

Safety Data Sheet

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

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

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

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

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 : No open flames, no sparks, and no smoking. Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe vapors.

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. Notify authorities if product enters sewers or public waters.

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 : Ensure good ventilation of the work station. 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 vapors 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. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Do not breathe vapors. Avoid contact with skin and eyes.
Hygiene measures : Separate working clothes from town clothes. Launder separately. 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

VE-FR-A CLEAR

Safety Data Sheet

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

Styrene (100-42-5)		
ACGIH	ACGIH TWA (ppm)	20 ppm (Styrene, monomer; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
ACGIH	ACGIH STEL (ppm)	40 ppm (Styrene, monomer; USA; Short time value; TLV - Adopted Value)
ACGIH	Remark (ACGIH)	CNS impair; URT irr; peripheral
OSHA	Remark (OSHA)	(2) See Table Z-2.
cobalt(II) ethylhexanoate (136-52-7)		
Not applicable		
Halogenated Vinyl Ester Resin (N/E)		
Not applicable		

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	: Wear respiratory protection.
Environmental exposure controls	: Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: clear
Odor	: Pungent
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: 298 °F
Flash point	: 89 °F
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Vapor pressure	: No data available
Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Solubility	: Insoluble in water. Water: Solubility in water of component(s) of the mixture : • : 0.030 g/100ml • N,N-dimethylaniline: 0.12 g/100ml (20 °C) • : 4.03 g/100ml (20 °C) • Stoddard solvent: insoluble • : 45 g/100ml • : >= 100 g/100ml (20 °C)
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

VE-FR-A CLEAR

Safety Data Sheet

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

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable liquid and vapor.

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: Not classified. Inhalation: Harmful if inhaled.

VE-FR-A CLEAR	
ATE US (gases)	4500.000 ppmV/4h
ATE US (vapors)	11.000 mg/l/4h
ATE US (dust, mist)	1.500 mg/l/4h

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 body weight
ATE US (dermal)	2820.000 mg/kg body weight
ATE US (gases)	2770.000 ppmV/4h
ATE US (vapors)	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 body weight (Rat; OECD 425: Acute Oral Toxicity: Up-and-Down Procedure; Experimental value)
LD50 dermal rat	> 2000 mg/kg body weight (Rat; Weight of evidence; OECD 402: Acute Dermal Toxicity)
ATE US (oral)	3129.000 mg/kg body weight

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : May cause cancer.

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.

VE-FR-A CLEAR

Safety Data Sheet

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

Specific target organ toxicity (repeated exposure)	: Causes damage to organs through prolonged or repeated exposure.
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 : Harmful to aquatic life with long lasting effects.

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)
EC50 Daphnia 2	0.605 mg/l (LC50; ASTM; 48 h; Ceriodaphnia dubia; Static system; Salt water; Read-across)
Threshold limit algae 1	144 µg/l (ErC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Pseudokirchneriella subcapitata; Static system; Fresh water; Read-across)
Threshold limit algae 2	32.2 µg/l (NOEC; OECD 201: Alga, Growth Inhibition Test; 72 h; Pseudokirchneriella subcapitata; Static system; Fresh water; Read-across)

12.2. Persistence and degradability

Styrene (100-42-5)	
Persistence and degradability	Readily biodegradable in water. Non degradable in the soil. Low potential for adsorption in soil. Photodegradation in the air.
Chemical oxygen demand (COD)	2.80 g O ₂ /g substance
ThOD	3.07 g O ₂ /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

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.

VE-FR-A CLEAR

Safety Data Sheet

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

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 vapors 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

VE-FR-A CLEAR

Safety Data Sheet

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

SECTION 15: Regulatory information

15.1. US Federal regulations

VE-FR-A CLEAR

Listed on the United States TSCA (Toxic Substances Control Act) inventory

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

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

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

No additional information available

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-phrases:

H226	Flammable liquid and vapor
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H350	May cause cancer
H351	Suspected of causing cancer
H372	Causes damage to organs through prolonged or repeated exposure
H412	Harmful to aquatic life with long lasting effects

NFPA health hazard

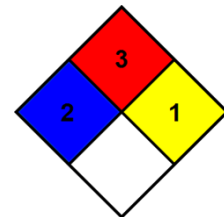
: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard

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

NFPA reactivity

: 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



VE-FR-A CLEAR

Safety Data Sheet

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

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 : 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

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