

Product Identification

Section 1

Product name	FloroEster VE Clear
Part number	Y0-180
Chemical Family	Vinyl Ester
Product usage	Coating material – Professional Use ONLY
Company	Florock Polymer Flooring 1120 W Exchange Chicago, IL 60609
Phone	773-376-7132
Chemtrec	800-424-9300

Hazard Identification

Section 2

GHS Classifications	Health Hazards Acute Toxicity, Inhalation, Category 4 Skin Irritation, Category 2 Eye Irritation, Category 2A Germ Cell Mutagenicity, Category 2 Carcinogenicity, Category 1B Reproductive Toxicity, Category 1B Specific Target Organ Systemic Toxicity, Single Exposure, Category 2, Central Nervous System [Inhalation, Ingestion] Specific Target Organ Systemic Toxicity, Repeated Exposure, Category 1, Central Nervous System, Liver & Respiratory Tract [Inhalation, Ingestion] Aspiration Hazard, Category 1
	Physical Hazards Flammable Liquid, Category 3
	Environmental Hazards Acute Aquatic Toxicity, Category 2

Signal word

Danger

Pictograms



Hazard statements

H226: Flammable liquid and vapor 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 H336: May cause drowsiness or dizziness H341: Suspected of causing genetic defects H350: May cause cancer H360: May damage fertility or the unborn child H371: May cause damage to organs (Central Nervous System) H372: Causes damage to organs through prolonged or repeated exposure (Central Nervous System, Liver, and Respiratory Tract) H401: Toxic to aquatic life

Precautionary statements

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 P235: Keep cool P240: Ground/bond container and receiving equipment P241: Use explosion-proof electrical/ventilating/lighting/equipment P242: Use only non-sparking tools P243: Take precautionary measures against static discharge P260: Do not breathe vapours P261: Avoid breathing vapours P264: Wash skin 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 gloves/protective clothing/eye protection/face protection P281: Use personal protective equipment as required P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P303 + P361 + P353: IF ON SKIN (hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position 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. P309 + P311: IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician. P312: Call a POISON CENTER or doctor/physician if you feel unwell. P314: Get medical advice/attention if you feel unwell. P321: Specific treatment found in supplemental first aid instruction. P331: Do NOT induce vomiting. P332 + P313: If skin irritation occurs: Get medical advice/attention. P337 + P313: If eye irritation persists: Get medical advice/attention. P362: Take off contaminated clothing

and wash before reuse. P370 + P378: In case of fire: Use dry chemicals, carbon dioxide, fog, alcohol foam or water spray for extinction. P403: Store in a well-ventilated place. P405: Store locked up. P501: Dispose of contents/container in accordance with local, regional, and federal regulations

Additional hazard
Information

Hazardous Components which must be listed on the label
Styrene
Cobalt 2-Ethylhexanoate

Composition Information of Ingredients

Section 3

Chemical characterization

Vinyl Ester

Component	CAS No.	Weight %
Styrene, phenylethene	100-42-5	40-50
Cobalt 2-Ethylhexanoate	136-52-7	< 1
Dimethylaniline	121-69-7	< 1

*Where a range is displayed or the exact percentage of the component in the composition has been withheld it is considered a trade secret.
Ingredients not listed on this SDS are considered to be non-hazardous.*

First Aid Measures

Section 4

General	Consult a physician. Show the physician this SDS. Move out of dangerous area immediately.
Inhalation	Immediately move outdoors or to fresh air. If breathing is difficult administer oxygen. Seek immediate medical attention and keep individual warm and quiet.
Eyes	Remove contact lenses if present. Rinse cautiously with water for at least 15 minutes. Seek immediate medical attention.
Ingestion	Seek immediate medical attention. If individual is drowsy or unconscious, have the individual lie down on their left side with their head down. Do not give individual anything by mouth. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. Do not leave individual unattended.
Skin	Immediately remove contaminated clothing. Flush exposed area with large amounts of water. Seek immediate medical attention. Wash contaminated clothing before reuse.

Most Important Symptoms/Effects

Inhalation	Stomach or intestinal irritation, nausea, vomiting, diarrhea, irritation of the nose and airways, central nervous system depression, dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness, lack of coordination, & confusion.
Eyes	Eye irritation, stinging sensation, tearing, redness, and swelling of the eyes.
Ingestion	Stomach or intestinal irritation, nausea, vomiting, diarrhea, metallic taste in the mouth and throat, irritation of the throat, central nervous system depression, dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness, lack of coordination, & confusion. Swallowing large amounts may cause for material to enter the lungs during swallowing or vomiting, leading to lung inflammation and other lung damages.
Skin	Skin irritation, redness, burning sensation, drying, cracking, and other skin damage.

Fire Fighting Measures

Section 5

Extinguishing media	Dry chemical, Carbon dioxide, Water spray, Alcohol Foam, Fog.
Extinguishing methods	Water may be used to keep exposed containers cool, and to keep flammable structures wet.
Special protective equipment	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Special hazards	Carbon monoxide, Carbon dioxide, Hydrocarbons
Important additional information	Material is volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by any ignition source near the material. Never use a welding or cutting torch on or near the drum, even if empty, because product can ignite explosively. Water may be ineffective for extinguishment unless used under favorable conditions by experienced fire-fighters. If performed under minimal risk, use water spray to cool fire-exposed containers and materials until fire is out. Avoid spreading burning material with water used for cooling purposes. Polymerization will take place under fire conditions. If polymerization occurs in a closed container, there is a possibility it will rupture violently.

Accidental Release Measures

Section 6

Personal precautions	<i>Protective equipment:</i> Recommended to wear chemical splash goggles & resistant gloves, such as polyvinyl alcohol-based gloves, and discard of gloves that show tears, pinholes, or signs of wear. Wear
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proper garments to prevent skin exposure, such as long-sleeves and pants.

Personal Precautions: Persons not wearing proper PPE should be excluded from the area of contamination until clean-up has been completed. Ensure adequate ventilation. Eliminate all ignition sources and pay attention to the spreading of gases, especially at ground level.

Environmental Precautions: Do not allow discharge into drains, surface waters, or sanitary sewer system. Prevent spreading over a wide area by containment or oil barriers. Local authorities should be advised if significant spillages cannot be contained or if material discharges into drains or ground water.

Methods for clean up and disposal	Contained spilled material with an inert, non-combustible, and absorbent material (e.g. sand, earth, diatomaceous earth, vermiculite). Transfer to a suitable container for disposal according to proper federal, state, and local regulations.
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Handling and Storage

Section 7

Precautions for safe handling	Containers of this material may be hazardous when emptied since emptied containers retain product residues (vapor, liquid, or solid). Keep away from heat and ignition sources. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Special precautions may be necessary to dissipate static electricity for non-conductive containers. Use proper bonding and grounding during product transfer as described in the National Fire Protection Association (NFPA) document 77. Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature or pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources. Any use of this product in elevated temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions.
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As with any chemical product, use good laboratory/workplace procedures. Do not cut, puncture, or weld on or near the container. Use under well-ventilated conditions. Wash thoroughly after handling this product. Always wash up before eating, smoking or using the facilities.

Avoid eye and skin contact. Avoid drinking, tasting, swallowing or ingesting this product. Wash contaminated clothing before reuse. Discard shoes contaminated with this product.

Avoid formation of dust and aerosols. The potential for combustible dust formation should be taken into consideration before additional processing occurs, like sanding and grinding. Provide appropriate exhaust ventilation at places where dust is formed. Do not dry sweep.

Conditions for safe storage, including incompatibilities

Protect container from physical abuse. Keep the container tightly closed. Store in cool dry well-ventilated areas. Store this material away from incompatible substances (**Incompatible Materials Include:** Acids, Aluminum, Aluminum Chloride, Bases, Copper, Copper alloys, Halogens, Iron chloride, Metal salts, Strong oxidizing agents, Peroxides). Do not store in open, unlabeled or mislabeled containers. Do not reuse empty containers.

Exposure Controls/Personal Protection

Section 8

Styrene, phenylethene

CAS # 100-42-5

ACGIH

Time weighted average (TWA)

20 ppm

Short term exposure limit (ST)

40 ppm

NIOSH

Recommended exposure limit (REL)

50 ppm (215 mg/m³)

Short term exposure limit (ST)

100 ppm (425 mg/m³)

OSHA

Time weighted average (TWA)

100 ppm

Ceiling Limit Value (C)

200 ppm

Maximum concentration

600 ppm

Engineering Controls

Ventilation

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposures below permissible exposure limits. OSHA has formally endorsed a styrene industry proposal for a voluntary 50 ppm workplace limit on styrene. Members of the Styrene Information and Research Council (SIRC), Composites Institute (CI), Composite Fabricators Association (CFA), International Cast Polymers Association (ICPA) and National Marine Manufacturers Association (NMMA) have agreed to use either engineering controls, work practices or respiratory protection to achieve this voluntary limit for styrene.

Personal Protective Equipment

Eye/Face protection

Recommended to wear tight fitting, chemical splash goggles are recommended when there is potential for the exposure of the eyes to the liquid, vapor or mist. Have a suitable eye wash station or bottle nearby in case of splashing into the eyes.

Skin protection

Recommended to wear long-sleeved clothing, pants and proper foot covering in order to prevent direct skin contact with the product. If skin irritation develops, contact your facility health and safety professional or your local safety equipment supplier to determine the proper personal protective equipment for your use.

Respiratory protection

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be appropriate under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined.

Protection provided by air purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Other protective considerations

Ensure adequate ventilation, especially in confined areas. Consider all potential hazards of this material, applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting PPE. Ensure that eyewash stations and safety showers are proximal to the work location. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

Do not inhale vapors. Wash hands before breaks and immediately after handling product. When using, do not eat, drink, or smoke. In case of clothes contamination, remove and wash contaminated clothing before re-use.

Physical/Chemical Properties

Section 9

Appearance: Liquid

Odor: Pungent

Odor Threshold: 0.1 ppm

pH: No data available

Melting/freezing point: -24°F (-31°C)

Boiling point: 293°F (145°C)

Boiling range: No data available

Flash point (Tag closed cup): 79°F (26.1°C)

Evaporation rate: < 1 Ethyl Ether

Flammability: Lower Limit: 1.1% (V) **Upper Limit:** 6.1% (V)

Vapor pressure: 0.851 kPa @ 77°F (25°C)

Vapor density: 3.6 (Air = 1)

Relative density: 1.018 g/cm³ (8.50 lb/gal) @ 68°F (20°C)

Solubility in water: Insoluble

Partition coefficient (n-octanol/water): No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity (dynamic): 300 – 500m cps

Stability and Reactivity

Section 10

Chemical stability Stable under recommended storage conditions

Reactivity No decomposition if stored and applied as directed.

Hazardous reactions Avoid exposure to excessive heat, peroxides and polymerization catalysts. Product will not undergo hazardous polymerization.

Conditions to avoid	Heat, Flames, Sparks, Exposure to sunlight, Exposure to air.
Incompatibility	Acids, Aluminum, Aluminum Chloride, Bases, Copper, Copper alloys, Halogens, Iron chloride, Metal salts, Strong oxidizing agents, Peroxides, UV light
Hazardous decomposition products	Carbon monoxide, Carbon dioxide, Phenols, Hydrocarbons

Toxicological Information	Section 11
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Routes of exposure	Inhalation, skin, eyes, ingestion
Symptoms of exposure	Metallic taste, stomach or intestinal irritation, nausea, vomiting, diarrhea, irritation of the nose, throat and airways, central nervous system depression, dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness, lack of coordination, confusion and liver damage.
Effects of exposure	The liquid defats the skin after long term or repeated exposure. The substance may have effects on the central nervous system. Exposure to the substance may enhance hearing damage caused by exposure to noise. This substance is a potential carcinogen to humans.
Carcinogenicity	<p>OSHA: Yes; 1B International Agency for Research on Cancer (IARC): Yes; 2B ACGIH: No National Toxicology Program (NTP) Report on Carcinogens: Yes</p> <p>There was no increase in cancer in rats exposed to styrene by inhalation. However, there was an increase in lung cancer in styrene-exposed mice. The relevance of mouse lung cancer to humans is uncertain. Styrene did not cause cancer in mice in studies in which the chemical was placed in the stomachs through a feeding tube, or in a study in which styrene was given by injection. Epidemiological studies do not provide a basis for concluding that styrene causes cancer.</p>

Ecological Information	Section 12
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Keep out of sewers, drainage areas, and waterways. Report spills and atmospheric releases, as applicable, under Federal and State regulations. This substance is toxic to aquatic organisms. It is strongly advised that this substance does not enter the environment.

Disposal Considerations	Section 13
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Dispose of container and unused contents in accordance with federal, state, and local requirements for hazardous materials. Do not allow to enter the drainage or water system. Contaminated packaging should be emptied as far as possible before disposal.

Transport Information **Section 14**

DOT Proper Shipping	
Name:	Resin solution, flammable
Packing Group:	III
DOT Hazard Class:	3
DOT UN/NA Number:	UN1866

IMDG (Marine) SHIPPING CLASSIFICATION:

IMDG CODE: 3
 UN NUMBER: UN1866
 MARINE POLLUTANT: No
 EmS: F-E; S-E
 IMDG PACKING GROUP: III
 HAZARD LABEL: 3

Description of the goods
 RESIN SOLUTION flammable

IATA (Air) SHIPPING CLASSIFICATION:

ICAO/IATA-DGR: 3
 UN NUMBER: UN1866
 HAZARD LABEL: 3
 IATA-packing instructions – Passenger: 355
 IATA -max. quantity – Passenger: 60L
 IATA – packing instructions – Cargo: 366
 IATA –max. quantity – Cargo: 220L
 IAO packing group: III
 Limited quantity Passenger: Y344 / 10 L

Description of the goods
 Resin solution, flammable

Regulatory Information **Section 15**

WARNING: This product contains chemicals known to the state of California to cause cancer, birth defects, and other reproductive harm.

The components of this product may be included on the various state hazardous materials lists noted below. California Hazardous Substances List
 Delaware Air Quality Management List Idaho Air Pollutants List
 Illinois Toxic Air Contaminants List Maine Hazardous Air Pollutants List Massachusetts Hazardous Substances List Michigan Critical Materials List Minnesota Hazardous Substances List
 New Jersey RTK Hazardous Substances List

New Jersey TCPA Extremely Hazardous Substances List
New York List of Hazardous Substances
North Carolina Toxic Air Contaminants List Pennsylvania Hazardous Substances List
Washington Permissible Exposure Air Contaminants List West Virginia Air Toxic Pollutants List
Wisconsin Hazardous Air Contaminants List
Note: Entries under Section 15 are not intended to be all inclusive of Federal and State laws and regulations. Please consult the appropriate agencies for further clarification of any requirements.

Classification and hazards statements are listed according to the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).
Regulations in individual countries/regions may determine which classifications and hazard statements are applicable based on adopted hazard classes and categories.

Other Information

Section 16

Precautionary statements are listed according to the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS) - Annex III.
Regulations in individual countries/regions may determine which statements are required on the product label. See product label for specifics.

The information provided in this **Safety Data Sheet** is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal, and release. It is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.

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