



Safety Data Sheet

Part Number: **9016529, 9016296, 9016298**

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: ChemXP™-VE Flake Industrial Gray A

Chemical Family: Vinyl Ester

Product Use: Coating material

Manufacturer: Tennant Company
701 North Lilac Drive
P. O. Box 1452
Minneapolis, MN 55440-1452
Phone: 1-763-540-1200

24-Hour Emergency Phone Number: North America: 800-424-9300 (CHEMTREC)
International: 703-527-3887 (CHEMTREC) Collect Calls Accepted

2. HAZARD IDENTIFICATION

GHS Classifications

Health Hazards

Acute Toxicity, Inhalation, Category 4
Skin Irritation, Category 2
Eye Irritation, Category 2A
Respiratory Sensitization, Category 1B
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]

Physical Hazards

Flammable Liquid, Category 3

Environmental Hazards

Acute Aquatic Toxicity, Category 2

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GHS-Labeling

Pictograms:



Signal Word: Danger!

Hazard Statements

H226: Flammable liquid and vapor

H315: Causes skin irritation

H319: Causes serious eye irritation

H332: Harmful if inhaled

H334: May cause allergy or asthma symptoms or breathing difficulties 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

Prevention:

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

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P270: Do not eat, drink or smoke when using this product
P271: Use only outdoors or in a well-ventilated area
P280: Wear protective gloves/protective clothing/eye protection/face protection
P281: Use personal protective equipment as required
P285: In case of inadequate ventilation wear respiratory protection

Response:

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 + P341: 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.
P332 + P313: If skin irritation occurs: Get medical advice/attention.
P337 + P313: If eye irritation persists: Get medical advice/attention.
P342 + P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
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.

Storage:

P403 + P235: Store in a well-ventilated place. Keep cool.
P405: Store locked up

Disposal:

P501: Dispose of contents/container in accordance with local, regional, and federal regulations

Hazardous Components which must be listed on the label

Cobalt 2-Ethylhexanoate
Dimethylaniline
Silica
Styrene
Titanium Dioxide

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3. COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical characterization

Vinyl Ester

Component	CAS #	% By Wt.
Styrene, phenylethene	100-42-5	38 – 48
Hydrophobic Silica	67762-90-7	1 – 5
Crystalline Silica, Quartz	14808-60-7	1 – 5
Titanium Dioxide	13463-67-7	1 – 5
Cobalt 2-Ethylhexanoate	136-52-7	< 1
Dimethylaniline	121-69-7	< 1

4. FIRST AID MEASURES:

Inhalation

Symptoms & Effects: 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

Measures: Immediately move outdoors or to fresh air. If breathing is difficult administer oxygen. Seek immediate medical attention and keep individual warm and quiet.

Skin Contact

Symptoms & Effects: Skin irritation, redness, burning sensation, drying, cracking, and other skin damage.

Measures: Immediately remove contaminated clothing. Flush exposed area with large amounts of water. Seek immediate medical attention. Wash contaminated clothing before reuse.

Eye Contact

Symptoms & Effects: Eye irritation, stinging sensation, tearing, redness, and swelling of the eyes.

Measures: Remove contact lenses and immediately flush eyes gently with plenty of water for at least 15 minutes. Hold eyelids open and wash thoroughly. Seek immediate medical attention.

Ingestion

Symptoms & Effects: 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.

Measures: 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,

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medical facility, or poison control center for advice about whether to induce vomiting. Do not leave individual unattended.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical, Carbon dioxide, Water spray, Alcohol-resistant foam

Unsuitable Extinguishing Media: Water may be ineffective unless used under favorable conditions.

Hazardous Combustion Products: Carbon monoxide, Carbon dioxide, Hydrocarbons, Phenols

Protective Equipment for Fire-Fighters: Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA).

Precautions for Fire-Fighters: 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.

6. ACCIDENTAL RELEASE MEASURES:

Protective Equipment: 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 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 & Materials for Clean-Up: Contained spilled material with inert, non-combustible absorbent materials (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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7. HANDLING AND STORAGE

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.

Storage: Store in a cool, dry, ventilated area, away from heat and ignition sources as well as from incompatible materials (see below). Keep container tightly closed. Keep away from food, drink, and animal foodstuffs.

Incompatible Materials: Acids, Aluminum, Aluminum Chloride, Bases, Copper, Copper alloys, Halogens, Iron chloride, Metal salts, Strong oxidizing agents, Peroxides

8. EXPOSURE CONTROLS & PERSONAL PROTECTION

Exposure Limits :

Exposure limits have not been established for this product.

Styrene, phenylethene	CAS # 100-42-5	OSHA	Time weighted average (TWA)	100 ppm
			Ceiling Limit Value (C)	200 ppm
			Maximum concentration	600 ppm
	ACGIH		Time weighted average (TWA)	20 ppm
			Short term exposure limit (ST)	40 ppm
	NIOSH		Recommended exposure limit (REL)	50 ppm (215 mg/m ³)
		Short term exposure limit (ST)	100 ppm (425 mg/m ³)	
Hydrophobic Silica	CAS # 67762-90-7	OSHA	Permissible Exposure Limit (PEL)	0.8 mg/m ³
		ACGIH	Time weighted average (TWA)	3.0 mg/m ³
Crystalline Silica	CAS # 14808-60-7	OSHA	Permissible Exposure Limit (PEL)	0.1 mg/m ³ / % SiO ₂
		ACGIH	Time weighted average (TWA)	3.0 mg/m ³

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Titanium Dioxide	CAS # 13463-67-7	
OSHA	Permissible Exposure Limit (PEL)	15 mg/m ³
ACGIH	Time weighted average (TWA)	10 mg/m ³

Engineering Controls: 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.

Occupational Exposure Controls: 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.

Protective and Hygiene measures: 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.

Eye 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.

Hand Protection: Recommended to wear resistant gloves, such as polyvinyl alcohol-based gloves and discard of gloves that show tears, pinholes, or signs of wear.

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 uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquid

Odor: Pungent

Odor Threshold: No data available

pH: No data available

Melting/freezing point: No data available

Boiling point: 293°F (145°C)

Boiling range: No data available

Flash point (Tag closed cup): 80°F (26.7°C)

Evaporation rate: < 1 Ethyl Ether

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

Vapor pressure: 0.60 kPa @ 77°F (25°C)

Vapor density: > 1 (Air = 1)

Relative density: 1.48 g/cm³ (12.4 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): > 20.2 mPa*s @ 104°F (40°C)

10. STABILITY AND REACTIVITY

Reactivity: No decomposition if stored and applied as directed.

Chemical Stability: Stable under normal conditions.

Possibility of 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

Incompatible Materials: 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

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11. TOXICOLOGICAL INFORMATION

Primary Routes of Exposure: Inhalation, Skin absorption, Skin contact, Eye contact, Ingestion

Symptoms Related to Physical, Chemical and Toxicological Characteristics: 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

Delayed and Immediate Effects & Chronic Effects from 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 (see below).

Measures of Toxicity:

OSHA: **Acute Toxicity, Inhalation, Category 4**

Styrene: Acute Oral Toxicity: LD₅₀ Rat: 2,650 mg/kg

Acute Inhalation Toxicity: LC₅₀ Rat: 2800 ppm; 4 h

Hydrophobic Silica: Acute Oral Toxicity: LD₅₀ Rat: > 1,000 mg/kg

Acute Dermal Toxicity: LD₅₀ Rat: > 2,000 mg/kg

Carcinogen Claims:

OSHA: **Yes; 1B**

International Agency for Research on Cancer (IARC): **Yes; 2B**

ACGIH: No

National Toxicology Program (NTP) Report on Carcinogens: **Yes**

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.

12. ECOLOGICAL INFORMATION

Eco-toxicity: This substance is toxic to aquatic organisms. It is strongly advised that this substance does not enter the environment.

Persistence & Degradability: No data available

Bio-accumulative Potential: No data available

Mobility in Soil: No data available

Other Adverse Effects: No data available

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13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with Federal, State or Local regulations.
Contaminated packaging should be emptied as far as possible before disposal.

14. TRANSPORT INFORMATION

DOT SHIPPING CLASSIFICATION:

UN NUMBER: UN1866
PROPER SHIPPING NAME: Resin solution, flammable
TRANSPORTATION HAZARD CLASS: 3
PACKING GROUP: III
HAZARD LABEL: 3

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

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15. REGULATORY INFORMATION

All components of this product conform to the following national inventory requirements. US TSCA, EU EINECS and Canada DSL

SARA Title III

The following ingredients are subject to the supplier notification requirements of Section 313 of the Superfund Amendments and Reauthorization Act (SARA/EPCRA) and the requirements of 40 CFR Part 37

Styrene (1,000 Lbs. RQ)

OTHER FEDERAL REGULATIONS

Components of this product are subject to RCRA Hazardous Waste requirements. Clean Air Act (CAA) Hazardous Air Pollutants requirements and OSHA Process Safety Management (PSM) high hazard requirements.

CANADIAN REGULATIONS

WHMIS Classification: B2, D2A [Styrene]

STATE REGULATIONS

California Proposition 65

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



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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.

16. OTHER INFORMATION

This SDS conforms to the OSHA Hazard Communication Standard 1910.1200 published in the Federal Register March 26, 2012

Disclaimer

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 a guidance for safe handling, use, processing, storage, transportation, disposal and release and 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. Shipping information may vary based upon container size and shipping destination. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage, or release to the environment. The manufacturer assumes no responsibility for injury to the recipient or third persons, or for any damages to any property resulting from misuse of the product.

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