

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

February, 1977

Required under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME PPG Industries, Inc.		EMERGENCY TELEPHONE NO. (412) 434-3131
ADDRESS (Number, Street, City, State, and ZIP Code) One Gateway Center, Pittsburgh, PA 15222		
CHEMICAL NAME AND SYNONYMS Vinylidene Chloride, Vinylidene Chloride Monomer		TRADE NAME AND SYNONYMS N/A
CHEMICAL FAMILY Chlorinated Hydrocarbon	FORMULA $\text{CH}_2=\text{CCl}_2$	

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Unit)	ALLOYS AND METALLIC COATINGS	%	TLV (Unit)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATINGS OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Unit)
Vinylidene Chloride				100	10 ppm

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	88.9	SPECIFIC GRAVITY ($\text{H}_2\text{O}=1$)	1.213
VAPOR PRESSURE (mm Hg.) @ 20°C	495	PERCENT VOLATILE BY VOLUME (%)	100
VAPOR DENSITY (AIR=1)	3.34	EVAPORATION RATE (Ether = 1)	1
SOLUBILITY IN WATER @ 20°C	0.04%		
APPEARANCE AND ODOR Clear, colorless liquid, sweet odor			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) 50 F (Cleveland open cup)	FLAMMABLE LIMITS	LM 7	UL 16
EXTINGUISHING MEDIA CO ₂ , dry chemical, water spray, foam			
SPECIAL FIRE FIGHTING PROCEDURES Wear NIOSH/MESA approved positive pressure self-contained			
Breathing apparatus: water spray may be used to cool equipment.			
UNUSUAL FIRE AND EXPLOSION HAZARDS Products of combustion include toxic and corrosive gases such as hydrogen chloride			

SECTION V - HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE	10 parts per million (ppm) - volume/volume ACGIH - 1976)
EFFECTS OF OVEREXPOSURE	suspect Carcinogen in experimental laboratory animals - See Attached Sheet
EMERGENCY AND FIRST AID PROCEDURES	See Attached Sheet

SECTION VI - REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID Ignition sources, direct sunlight, excessive heat
	STABLE	X*	exposure to atmospheric oxygen.
INCOMPATIBILITY (Materials to avoid) Contamination with water, free radical initiators; copper, aluminum and their alloys.			
HAZARDOUS DECOMPOSITION PRODUCTS Explosive peroxides, hydrogen chloride.			
HAZARDOUS POLYMERIZATION	MAY OCCUR	X	CONDITIONS TO AVOID Exposure to atmospheric oxygen.
	WILL NOT OCCUR		
*Exposure of uninhibited or inhibitor-depleted monomer to oxygen may form explosive peroxides.			

SECTION VII - SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Evacuate spill area; remove sources of ignition; wear self-contained breathing apparatus; ventilate area to below explosive limits; dike large spills. Small spills can be removed with absorbent material such as sand or vermiculite.	
WASTE DISPOSAL METHOD Large diked quantities should be pumped to salvage tanks for reclamation* or disposal by waste disposal contractor. For small quantities, absorb as indicated above, then sweep up absorbent material and place in closed containers for disposal by waste disposal contractor; then flush area of spill with water.	

SECTION VIII - SPECIAL PROTECTION INFORMATION		
RESPIRATORY PROTECTION (Specify type) See Attached Sheet		
VENTILATION	LOCAL EXHAUST Sufficient to maintain concentration below 10 ppm.	SPECIAL
	MECHANICAL (General)	OTHER
PROTECTIVE GLOVES	Neoprene	EYE PROTECTION Chemical safety goggles, unless full facepiece respirator is worn.
OTHER PROTECTIVE EQUIPMENT Protective clothing to prevent skin contact.		

SECTION IX - SPECIAL PRECAUTIONS	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Keep away from sources of ignition; avoid contamination with oxygen, moisture or catalytic impurities; keep material under inert atmosphere in dry equipment. Store in cool, dry place.	
OTHER PRECAUTIONS Do not store material longer than 4 months.	

ADDENDUM TO MATERIAL SAFETY DATA SHEET
ON VINYLIDENE CHLORIDE (FEBRUARY 1977)

Section V - Health Hazard Data

Effects of Overexposure:

Acute - Overexposure to vapor can lead to anesthesia, irrational behavior, drunkenness, and if continued, unconsciousness and ultimately, death. Liquid vinylidene chloride is irritating to the eyes and skin. The inhibitor can cause local skin irritation or burns unless washed off thoroughly.

Since the odor threshold lies between 500 and 1000 ppm, the odor of vinylidene chloride is not an adequate warning to prevent overexposure.

Chronic - In recent preliminary animal studies, it has been reported that vinylidene chloride in concentrations higher than the present ACGIH threshold limit value (TLV) of 10 ppm may be carcinogenic to some species of experimental laboratory animals via inhalation. Although these findings are preliminary and incomplete, it is suggested that air concentrations of vinylidene chloride in the work area be maintained below 10 ppm at all times. It is also recommended that the 8-hour time weighted average (TWA) be maintained as far below 10 ppm as practical.

Chronic exposure to low concentrations of vinylidene chloride can result in injury to the liver and kidneys.

Emergency and First Aid Procedures:

Inhalation Overexposure - Remove to fresh air. If not breathing, give artificial respiration, preferable mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.

Eye or skin contact - Immediately flush with plenty of water (soap and water for skin) for at least 15 minutes. If irritation occurs, consult a physician. Wash contaminated clothing before reuse.

Section VIII - Special Protection Information

Respiratory protection:

Wear NIOSH/MESA - approved non-air purifying respiratory protection where concentrations cannot be maintained below 10 ppm. Establish a respiratory protection program in accordance with the minimum requirements of 29 CFR 1910.134 (May 28, 1975).