

SHELL OIL COMPANY
SHELL CHEMICAL COMPANY
SHELL DEVELOPMENT COMPANY
SHELL PIPE LINE CORPORATION

MSDS 6450-8

HAZARD
RATING

MATERIAL SAFETY DATA SHEET

Information on this form is furnished solely for the purpose of compliance with the Occupational Safety and Health Act of 1970 and shall not be used for any other purpose. Use or dissemination of all or any part of this information for any other purpose may result in a violation of law or constitute grounds for legal action.

SECTION I	
MANUFACTURER'S NAME Shell Chemical Company	EMERGENCY TELEPHONE NO. 713-473-9461
ADDRESS (Number, Street, City, State, and ZIP Code) One Shell Plaza, Houston, Texas, P. O. Box 2463	
CHEMICAL NAME AND SYNONYMS Vinyl Chloride, Chloroethylene, Chloroethene	TRADE NAME Vinyl Chloride Monomer (VCM)
CHEMICAL FAMILY Vinyl Halide	FORMULA C ₂ H ₃ Cl

SECTION II HAZARDOUS INGREDIENTS*						
COMPOSITION	%	SPECIES	LD ₅₀		LC ₅₀	
			ORAL	DERMAL	CONCENTRATION	HOURS
Vinyl Chloride	100					
DANGER! EXTREMELY FLAMMABLE, TOXIC LIQUEFIED COMPRESSED GAS. CANCER SUSPECT AGENT.						
Long-term exposure to vinyl chloride vapor has caused cancer including a rare form of liver cancer in animals. Some production workers exposed for many years to high concentrations of vinyl chloride monomer vapor have developed the same type of liver cancer. In addition, there are reports that vinyl chloride may cause cancer at other sites as well. Degeneration of the ends of finger bones has also been observed in some workers after prolonged exposure to high vinyl chloride monomer concentrations.						

SECTION III PHYSICAL DATA			
BOILING POINT (°F)	7	SPECIFIC GRAVITY (H ₂ O=1) 20°C	0.91
VAPOR PRESSURE (mmHg) @ 68°F	2580	PERCENT VOLATILE BY VOLUME (%)	100
VAPOR DENSITY (AIR=1)	2.15	EVAPORATION RATE (_____=1)	
SOLUBILITY IN WATER	Slight		
APPEARANCE AND ODOR	Colorless, sweet smelling gas.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA			
FLASH POINT (Method used) (TOC)	-78°C (-108°F)	FLAMMABLE LIMITS	
		LeI	UeI
		3.6	33
EXTINGUISHING MEDIA Notify fire department. For massive cargo fires involving multiple containers, let it burn itself out. Evacuate the area of all personnel to 2000 ft. due to danger of exploding vessels (BLEVE's). In addition, downwind areas should be evacuated if there is danger of exposure to toxic combustion gases. For small fires, evacuate immediate vicinity. If without danger to personnel, cool nearby containers with water spray or fog to keep fire from spreading.			
UNUSUAL FIRE AND EXPLOSION HAZARDS Heat can cause polymerization. Stay away from ends of tanks. Combustion products contain corrosive and toxic HCl, possibly carbon monoxide and phosgene. All combustion products are harmful and potentially lethal in high concentrations.			

*Modified by Shell Oil Company



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SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE 1 ppm 8-hr TWA; 5 ppm 15 minutes. If concentration exceeds 0.5 ppm (Action Level), take immediate steps to reduce concentration and avoid exposure.

EFFECTS OF OVEREXPOSURE Inhalation can cause asphyxiation, persistent irregular heart beat, narcosis, nausea, or dizziness. Long-term exposure may cause permanent liver injury and possibly cancer (see Section II). Contact with the liquid may cause severe skin irritation, frost bite, or freezing.

EMERGENCY AND FIRST AID PROCEDURES

Remove to fresh air. If not breathing, administer artificial respiration; if breathing is difficult, apply oxygen. In case of liquid contact thaw frosted parts with water; flush eyes with clean, low pressure water. GET MEDICAL ATTENTION AS SOON AS POSSIBLE.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE	X	CONDITIONS TO AVOID Heat, contact with oxidizing agents, oxygen, air,
	STABLE		sunlight and other polymerization catalysts.
INCOMPATIBILITY (Materials to avoid) Oxidizing agents, air, oxygen, copper, alkali metals and their alloys.			
HAZARDOUS DECOMPOSITION PRODUCTS HCl, CO, phosgene on combustion.			
HAZARDOUS POLYMERIZATION	MAY OCCUR	X	CONDITIONS TO AVOID Heat, air, sunlight, oxidizers and contamination by polymerization catalysts.
	WILL NOT OCCUR		
Can form shock sensitive peroxides on exposure to air.			

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED EXTREMELY FLAMMABLE. IF THERE IS A LEAK BUT NO FIRE, DO NOT IGNITE THE GAS. Eliminate ignition sources. Wear pressure demand self-contained respiratory equipment and protective clothing. Evacuate unauthorized and/or unprotected personnel. Dike and contain. Allow to evaporate slowly. Notify fire department. It may be necessary to evacuate downwind areas. Disperse vapor cloud with high sustained flow of water spray or fog. Shut off leak if possible. Vapors are heavier than air and can travel long distances along ground to ignition source. Be ready for probable ignition. **KEEP OUT OF SEWERS OR OTHER WATER SYSTEMS.** Notify authorities if this happens or is threatened. EPA and Coast Guard Number is 800-424-8802.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) Self contained or air supplied air respirator as specified by OSHA.		
VENTILATION	LOCAL EXHAUST Highly recommended (explosion proof)	SPECIAL
	MECHANICAL (General)	OTHER
PROTECTIVE GLOVES	Rubber	EYE PROTECTION Chemical goggles
OTHER PROTECTIVE EQUIPMENT As required to prevent bodily contact.		

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Label: VINYL CHLORIDE-CANCER SUSPECT AGENT. No smoking, flames, or sources of ignition in storage or work area.

OTHER PRECAUTIONS
Do not eat, drink or smoke in areas where VCM is used or stored. Use good personal hygiene. HANDLE AS EXTREMELY FLAMMABLE TOXIC GAS. OSHA requires medical surveillance and quarterly monitoring if action level is exceeded.

Shell Oil Company
Product Safety & Compliance
Oil & Chemical Products

DATE June, 1978

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSONS PROXIMATELY CAUSED BY THE MATERIAL IF REASONABLE SAFETY PROCEDURES ARE NOT ADHERED TO AS STIPULATED IN THE DATA SHEET. ADDITIONALLY, VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSONS PROXIMATELY CAUSED BY ABNORMAL USE OF THE MATERIAL EVEN IF REASONABLE SAFETY PROCEDURES ARE FOLLOWED. FURTHERMORE, VENDEE ASSUMES THE RISK IN HIS USE OF THE MATERIAL.



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