



Formosa Plastics Corporation, TAIWAN

Safety Data Sheet

1. PRODUCT IDENTIFICATION

Product Name: Vinyl Chloride
Synonyms: Chloroethylene; Chloroethene; Vinyl Chloride Monomer; VCM
Manufacturer: Formosa Plastics Corporation, Taiwan
Formosa Insudtroal Park NO.1,Mailiao,Yumlin County,Taiwan (R.O.C.)
Telephone: +886-5-681-1108/1113
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Emergency Contact: +886-5-681-1108/1113
Product Use: Various industrial uses.
Physical Description: Gas, liquid under pressure
Formula: C₂H₃Cl

2. HAZARD IDENTIFICATION

Emergency Overview:

DANGER!

Extremely flammable gas.
May cause cancer.
Contains gas under pressure; may explode if heated.



3. PRODUCT INGREDIENTS

Components	Percent (%)
Vinyl Chloride	99-100
CAS Number:	75-01-4
GHS Classification:	Flam. Gas 1, Carc. 1; H220, H280, H350

4. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with water for at least 15 minutes. Hold eyelids open to ensure adequate flushing. Get immediate medical attention.

Skin Contact: Remove contaminated clothing and shoes. Wash affected skin area with soap and water. Get immediate medical attention.

Inhalation: Remove to fresh air. Get immediate medical attention.



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Ingestion:	If ingested, dilute swallowed material by drinking water. Never give anything by mouth to an unconscious person. Do not induce vomiting. Get immediate medical attention.
Other Instructions:	Rescue personnel must wear appropriate protective equipment during removal of victims from contaminated areas. Treat symptomatically and supportively.

5. FIRE-FIGHTING MEASURES

Flash Point: -108 °F (-78 °C) (Closed Cup)

Autoignition Temperature: 882 °F (472 °C) at 760 mmHg

Flammable Limits, in Air:

Lower Explosive Limit (LEL): 3.6 %

Upper Explosive Limit (UEL): 33 %

Extinguishing Media: Dry chemical, foam, or carbon dioxide. Water spray may be used to cool fire exposed containers, dilute spills to nonflammable mixtures, protect personnel attempting to stop leak and disperse vapors.

Special Fire Fighting Procedure: In the event of a fire, wear a NIOSH (US) or CEN (EU) approved, positive pressure, self-contained breathing apparatus (SCBA) and full protective clothing. Evacuate all non-essential personnel from the danger area.

Unusual Fire and Explosion Hazards: Vapors are heavier than air and may travel to an ignition source and flash back.

Hazardous Combustion Products Carbon monoxide, carbon dioxide, hydrogen chloride, phosgene and other irritating and harmful gases and fumes.



6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Restrict access to keep out unauthorized or unprotected personnel. Stay upwind of spilled material. Wear appropriate personal protective equipment during all clean-up activities. Avoid inhalation and direct contact.

Environmental Precautions: Keep spilled material away from sewage/drainage systems and waterways. This product contains a U.S. EPA Reportable Quantity (RQ) substance. If amounts exceeding the Reportable Quantity are released, notification of the National Response Center (800) 424-8802 is required. See Section 15 for more information.

Methods for Clean-Up: All clean-up personnel must be properly trained. Remove incompatible materials and ignition sources. Ensure adequate ventilation. Secure the source of the leak if conditions are safe. Place waste in an appropriate container for disposal. Use care during clean-up to avoid exposure to the material and injury from broken containers.

7. HANDLING AND STORAGE

Handling: Keep away from heat/sparks/open flames/hot surfaces – No smoking. Use with adequate ventilation. Wear proper personal protective equipment. Take precautions.

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against static discharge. Transfer and store in properly bonded and grounded containers. Use spark/explosion-proof tools and equipment. Container headspace may contain flammable vapors. Open containers carefully.

Storage:

Store in closed, properly labeled containers. Protect containers from heat, physical damage, ignition sources and incompatible materials. Have emergency equipment for fires and spills readily available.

8. EXPOSURE CONTROLS & PERSONAL PROTECTION**Eye Protection:**

Wear safety glasses with side shields, goggles or face shield.

Skin Protection:

Minimize contact with product. Wear gloves, apron and/or suitable long-sleeved clothing.

Respiratory Protection:

An industrial hygiene risk assessment is required to determine the appropriate respiratory protection. Wear an approved supplied air respirator if there is a potential for an uncontrolled release, exposure levels are not known, or in other circumstances where air-purifying respirators may not provide adequate protection.

Engineering Controls:

Ensure adequate ventilation. Emergency eyewash and safety shower facilities should be available in the immediate work area.

Required Work/Hygiene Procedure:

Wash hands thoroughly after handling. Do not eat, drink or smoke in work area. If unusual exposures are expected, an industrial hygiene review of work practices, engineering controls and personal protective equipment is recommended.

Exposure Guidelines:

OSHA PEL-TWA:	3 ppm
OSHA PEL-STEL:	5 ppm
ACGIH TLV:	1 ppm

9. PHYSICAL / CHEMICAL PROPERTIES

Physical Form:	Gas, liquid under pressure
Color:	Clear
Odor:	Chloroform-like odor
Molecular Weight:	62.5
Boiling Point:	7 °F (-14 °C)
Solubility in Water:	0.1% @ 77 °F (25 °C)
Specific Gravity:	0.91 @ 77 °F (25 °C) (water = 1)
Vapor Density:	2.15 (air = 1)
Evaporation Rate:	>1 (butyl acetate =1)
Vapor Pressure:	2580 mmHg @ 68 °F (20 °C)
% Volatile:	100
pH:	Not Determined
Partition Coefficient log Pow:	Not Determined



10. STABILITY & REACTIVITY

Stability:	Stable under recommended storage conditions.
Conditions to Avoid:	Keep away from heat, sparks and open flames. Not compatible with strong oxidizers, strong bases, aluminum, magnesium, potassium, sodium, nitric acid and ammonia.
Hazardous Decomposition:	No data available.
Hazardous Polymerization:	Polymerizes slowly in the presence of air, sunlight or oxygen. Polymerizes rapidly in the presence of peroxides. Generates considerable heat.

11. TOXICOLOGY INFORMATION

Primary Route(s) of Exposure:	Eye, skin contact, inhalation
Potential Health Effects:	
Eye Contact:	May cause eye irritation.
Skin Contact:	Contact may cause skin irritation and/or dermatitis.
Inhalation:	Inhalation may cause respiratory tract irritation, dizziness, headache, nausea, drowsiness, difficulty breathing and other effects related to the target organs for this toxicant.
Ingestion:	Ingestion may cause dizziness, headache, nausea, drowsiness, difficulty breathing, vomiting and other effects related to the target organs for this toxicant.
Target Organ Effects:	No data available.
Reproductive Effects:	No data available.
Carcinogenicity:	<p>The International Agency for Research on Cancer has classified this material as "Carcinogenic to Humans" (Group 1).</p> <p>There is evidence that repeated high level exposure to vinyl chloride could cause angiosarcoma, a rare form of liver cancer, in humans. Possible connective and soft tissue cancers have been reported in epidemiological studies. Transplacental carcinogenicity has been observed in some long-term animal studies.</p>
Mutagenicity:	No data available.
Medical Conditions Aggravated by Overexposure:	Exposure may aggravate disorders of the eyes, skin, gastrointestinal tract, respiratory system and liver.

12. ECOLOGICAL INFORMATION

No data are available on the adverse effects of this material on the environment.

13. DISPOSAL CONSIDERATIONS

Disposal Method:	This product must be disposed of in accordance with Federal, state and local environmental regulations. Discarded materials may be considered hazardous waste due to flammability.
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It is the responsibility of the product user to determine at the time of disposal whether a material containing, or derived from, this product should be classified as hazardous waste.

U.S. RCRA Waste Number: U043

14. TRANSPORTATION INFORMATION

Proper Shipping Name: Vinyl Chloride, Stabilized
Hazard Label: Flammable Gas
Hazard Class: 2.1
UN/NA Number: UN 1086
Packing Group: None
EPA Reportable Quantity (RQ): 1 lbs.
Marine Pollutant: No
Emergency Response Guide: 116P

15. REGULATORY INFORMATION

U.N. GHS Classification & Labeling Information:

Classification: Flammable Gas 1
Carcinogen 1
Compressed Gas



Signal Word: DANGER

H Statements: H220: Extremely flammable gas.
H280: Contains gas under pressure; may explode if heated.
H350: May cause cancer.

P Statements: P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking.
P240: Ground/bond container and receiving equipment.
P307+313: If exposed, get medical attention.
P281: Use personal protective equipment as required.
P243: Take precautions against static discharge.
P273: Avoid release into the environment.

NEPA 704 Information:

Health Rating: 2
Flammability Rating: 4
Reactivity Rating: 1
Other Hazards: Not applicable



U.S. Federal Regulatory Information:

EPA Clean Air Act: Listed
EPA Clean Water Act: Listed
TSCA: Listed



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U.S. Federal Regulatory Information:

RCRA ID Number: U043
CERCLA RQ: 1 lbs.
SARA Title III § 302: None
SARA Title III § 311/312: Acute Health Hazard, Chronic Health Hazard, Fire Hazard, Sudden Release of Pressure Hazard
SARA Title III § 313: Listed
Container Labeling: Containers of vinyl chloride shall be labeled with the following statement as required by 29 CFR 1910.1017:

VINYL CHLORIDE
EXTREMELY FLAMMABLE GAS UNDER PRESSURE
CANCER-SUSPECT AGENT

European Union Regulatory Information:

DSD/DPD Risk (R) Phrases: R11: Highly flammable.
R45: May cause cancer.



DSD/DPD Hazard Symbol: F+: Extremely Flammable; T: Toxic

DSD/DPD Safety (S) Phrases: S24/25: Avoid any inhalation, contact with skin and eyes.
S36/37: Wear suitable protective clothing and gloves.
S33: Take precautions against static discharge.
S61: Avoid release to the environment.

Canadian Regulatory Information:

WHMIS Category: Class A
Class B, Division 1
Class D, Division 1, Subdivision B



Ingredient Disclosure List: Listed (0.1%)
Domestic Substances List (DSL): Listed

16. OTHER INFORMATION

European Union Compliance: This SDS conforms to regulations 1907/2006/EC (REACH). This product has been classified in accordance with 67/548/EEC, 1999/45/EC, 1272/2008 (CLP) and amendments.

Prepared By: Formosa Plastics Corporation , TAIWAN

Revision History: The version of this SDS was changed on AUG 09,2017

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, Formosa Plastics Corporation, TAIWAN and its subsidiaries cannot guarantee that these are the only hazards that exist. Formosa Plastics Corporation, TAIWAN assumes no legal responsibility for loss, damage or expense arising out of, or in any way connected with, the handling, storage, use or disposal of this product.

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