



Formosa Plastics®

SDS Number: 002
Revision Date: 31 / 12 / 2020

Formosa Plastics Corporation, TAIWAN

Material Safety Data Sheet

1. PRODUCT IDENTIFICATION

Product Name: Ethylene Dichloride
Synonyms: 1,2-Dichloroethane, EDC

Manufacturer: Formosa Plastics Corporation, Taiwan
No.100, Shuiguan Rd., Renwu Dist., Kaohsiung City 814, Taiwan (R.O.C.)

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Emergency Contact: +886-7-371-1411(5391 / 5396)
Product Use: Various industrial uses.
Physical Description: Clear liquid
Formula: C₂H₄Cl₂

2. HAZARD IDENTIFICATION

Emergency Overview:

DANGER!

- Highly flammable liquid and vapor.
- Harmful if swallowed.
- May be harmful in contact with skin.
- Causes serious eye irritation.
- Causes skin irritation.
- May cause cancer.
- May cause dizziness or drowsiness.
- May cause respiratory irritation.




3. PRODUCT INGREDIENTS

Components	Percent (%)
Ethylene Dichloride	95-100
CAS Number:	107-06-2
GHS Classification:	Flam. Liq. 2, Eye Irrit. 2, Skin Irrit. 2, Acute Tox. 4, STOT-SE 3, Carc. 1B; H225, H319, H315, H302, H335, H336, 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.
Ingestion:	If ingested, dilute swallowed material by drinking water. Never give anything by mouth to an unconscious person. 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:	55.4 °F (14 °C) (Closed Cup)	
Autoignition Temperature:	775 °F (413 °C) at 760 mmHg	
Flammable Limits, in Air:		
Lower Explosive Limit (LEL):	6.2%	
Upper Explosive Limit (UEL):	16.2%	
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. Confine the spill and remove incompatible materials and ignition sources. Ensure adequate ventilation. Secure the source of the leak if conditions are safe. Collect using an appropriate absorbent material such as clay or vermiculite. Place waste in an appropriate container for disposal. Use care during clean-up to avoid exposure to the material and injury from broken containers.
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7. HANDLING AND STORAGE

Handling:	Use with adequate ventilation. Wear proper personal protective equipment. Take precautions 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. A NIOSH (US) or CEN (EU) approved full-face, air-purifying cartridge respirator may be appropriate under limited exposure conditions. 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:	50 ppm
OSHA PEL-Ceiling:	100 ppm
OSHA PEL:	200 ppm (5-minute maximum peak in any 3 hours)
ACGIH TLV:	10 ppm
NIOSH IDLH:	50 ppm

9. PHYSICAL / CHEMICAL PROPERTIES

Physical Form:	Liquid
Color:	Clear
Odor:	Chloroform-like odor



Molecular Weight:	99
Boiling Point:	182 °F (83.5 °C)
Melting Point:	-31.5 °F (-35.3 °C)
Freezing Point:	-31.5 °F (-35.3 °C)
Solubility in Water:	5-10 mg/mL @ 68 °F (20 °C)
Specific Gravity:	1.26 @ 68 °F (20 °C) (water = 1)
Vapor Density:	3.4 (air = 1)
Evaporation Rate:	0.27 (butyl acetate = 1)
Vapor Pressure:	60 mmHg @ 68 °F (20 °C)
% Volatile:	100
pH:	~7
Partition Coefficient log Pow:	1.48 @ 68 °F (20 °C) (n-octanol – water)

The physical data included above are typical values and should not be construed as a specification.

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:	Not available
Hazardous Polymerization:	Not expected to occur.

11. TOXICOLOGY INFORMATION

Primary Route(s) of Exposure:	Eye, skin contact, inhalation
Potential Health Effects:	
Eye Contact:	Causes eye irritation.
Skin Contact:	Contact may cause skin irritation and/or dermatitis. May be harmful if absorbed through the skin.
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:	Harmful if swallowed. Ingestion may cause dizziness, headache, nausea, drowsiness, difficulty breathing, vomiting and other effects related to the target organs for this toxicant.
Target Organ Effects:	This material may cause adverse effects to the heart, central nervous system, liver, kidney and pancreas.
Reproductive Effects:	This material has been shown to cause adverse reproductive effects in experimental animals.



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Carcinogenicity: The International Agency for Research on Cancer has classified this material as "Possibly Carcinogenic to Humans" (Group 2B). The U.S. National Toxicology Program (NTP) has classified this material as 'Reasonably Anticipated to Cause Cancer'.

Mutagenicity: This material was positive in the Ames mutagenicity assay.

Medical Conditions Aggravated by Overexposure: Exposure may aggravate disorders of the eyes, skin, gastrointestinal tract, and respiratory system.

Toxicological Data:

Eye Irritation (Rabbit):	Severe Irritant
Skin Irritation (Rabbit):	Irritant (72 Hour Draize Test)
Oral LD50 (Rat):	670 mg/kg
Inhalation LC50 (Rat):	1000 ppm (7 hr)
Dermal LD50 (Rabbit):	2,800 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicological Data:

Ethylene Dichloride

96 hr LC50 (Rainbow Trout):	225 mg/L
96 hr NOEC (Minnow):	130 mg/L
24 hr EC50 (Daphnia Magna):	540 mg/L
Biodegradability:	Not readily biodegradable.

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 and the presence of a listed hazardous waste.

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: U077

14. TRANSPORTATION INFORMATION

Proper Shipping Name:	Ethylene Dichloride
Hazard Label:	Flammable, Toxic
Hazard Class:	3 (6.1)
UN/NA Number:	UN 1184
Packing Group:	II
EPA Reportable Quantity (RQ):	100 lbs.
Marine Pollutant:	No
Emergency Response Guide:	131



15. REGULATORY INFORMATION

U.N. GHS Classification & Labeling Information:

Classification: Flammable Liquid 2
Eye irritant 2
Skin Irritant 2
Acute Toxicity 4
Specific Target Organ Toxicity (STOT) – Single Exposure 3
Carcinogen 1B



Signal Word: DANGER

H Statements: H225: Highly flammable liquid and vapor.
H302: Harmful if swallowed.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.
H336: May cause dizziness or drowsiness.
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.
P264: Wash thoroughly after handling.
P243: Take precautions against static discharge.
P273: Avoid release into the environment.

NFPA 704 Information:

Health Rating: 3
Flammability Rating: 3
Reactivity Rating: 0
Other Hazards: Not applicable



U.S. Federal Regulatory Information:

EPA Clean Air Act: Listed
EPA Clean Water Act: Listed
TSCA: Subject to a TSCA Section (4) Enforceable Consent Agreement. Formosa Plastics and others are to report as required under Section 12(b).
RCRA ID Number: U077
CERCLA RQ: 100 lbs.
SARA Title III § 302: None
SARA Title III § 311/312: Acute Health Hazard, Chronic Health Hazard, Fire Hazard
SARA Title III § 313: Listed

European Union Regulatory Information:

DSD/DPD Risk (R) Phrases: R11: Highly flammable.



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R22: Harmful if swallowed.
R36/37/38: Irritating to eyes, respiratory system and skin.
R45: May cause cancer.



DSD/DPD Hazard Symbol: F: 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 B, Division 2
Class D, Division 1, Subdivision B
Ingredient Disclosure List: Listed
Domestic Substances List (DSL): Listed



16. OTHER INFORMATION

European Union Compliance: This MSDS 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 MSDS was changed on DEC 31, 2014

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