



1,2-DICHLOROETHANE

Material Safety Data Sheet

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Emergency Telephone Number  
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Effective Date: 08-13-85

PRODUCT IDENTIFICATION:

Synonyms: Ethylene Dichloride, Ethylene Chloride

Formula CAS No.: 107-06-2

Molecular Weight: 98.96

Hazardous Ingredients:  
Not applicable.

Chemical Formula: C<sub>2</sub>H<sub>4</sub>Cl<sub>2</sub>

PRECAUTIONARY MEASURES

DANGER! POSSIBLE CANCER HAZARD BASED ON TESTS WITH LABORATORY ANIMALS. EXPOSURE MAY CREATE A CANCER RISK. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. NEUROTOXIN. EFFECTS THE LIVER AND KIDNEYS. CAUSES IRRITATION. FLAMMABLE!

Wash thoroughly after handling.  
Avoid breathing vapor.  
Keep container closed.  
Use with adequate ventilation.  
Avoid contact with eyes, skin and clothing.  
Keep away from heat, sparks and flame.

EMERGENCY/FIRST AID

If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Never give anything by mouth to an unconscious person.  
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.  
In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes.  
In all cases call a physician.  
SEE SECTION 5.

DOT Hazard Class: Flammable Liquid

Physical Data

SECTION 1

Appearance: Colorless heavy liquid.

Odor: Chloroform like odor.

Solubility: 0.81g/100g water @ 20°C (68°F).

Boiling Point: 83.4°C (182°F).

Vapor Density (Air-1): 3.42

Melting Point: -35.4°C (-31.7°F).

Vapor Pressure (mm Hg): 68 @ 20°C (68°F).

Specific Gravity: 1.25

Evaporation Rate: (CC14-1) 1.3

Fire and Explosion Information

SECTION 2

Fire:

Flammable.  
Flash point: 13°C (55.4°F).  
Autoignition temperature: 413°C (775°F).  
Flammable limits in air, % by volume:  
l<sub>el</sub>: 6.2 u<sub>el</sub>: 15.9

Explosion:

Above flash point, vapor-air mixtures are explosive within flammable limits noted above.

Fire Extinguishing Media:

Dry chemical, foam or carbon dioxide. Water spray may be used to keep fire exposed containers cool.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Vapors can flow along surfaces to distant ignition source and flash back.

Reactivity Data

SECTION 3

Stability:

Stable under ordinary conditions of use and storage. Darkens on exposure to air or light.

Hazardous Decomposition Products:

Emits toxic fumes of phosgene, hydrogen chloride, acetylene, and vinyl chloride when heated to decomposition.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Aluminum or magnesium powder, oxidizing agents, nitrogen tetroxide, ammonia, and dimethylaminopropylamine.

Leak/Spill Disposal Information

SECTION 4

Remove all sources of ignition. Clean-up personnel require protective clothing and respiratory protection from vapors. Contain and recover liquid when possible. Absorb with vermiculite, dry sand, earth, or similar material. Scoop up with non-sparking tools and place in a closed container, and dispose in a RCRA approved facility.

Reportable Quantity (RQ) (CWA/CERCLA) : 5000 lbs.

Ensure compliance with local, state and federal regulations.

MS DS  
SENT TO  
SAFETY OFFICER  
DATE 7-6-87

Health Hazard Information

SECTION 5

A. Exposure/Health Effects

Inhalation: Inhalation of vapors irritates the respiratory tract. May cause headache, weakness, cyanosis, nausea, vomiting, and diarrhea. These symptoms may be followed by weak and rapid pulse and unconsciousness. Death can occur from respiratory and circulatory failure.

Ingestion: Symptoms may be delayed and include dizziness, nausea, vomiting, diarrhea, internal bleeding, cyanosis, weak and rapid pulse, and unconsciousness. Exposure is known to produce neurological disorders and dysfunction of the liver, kidney and adrenal glands. Death can occur from respiratory and circulatory failure.

Skin Contact: Causes irritation. May be absorbed through the skin; symptoms may parallel inhalation and ingestion.

Eye Contact: Vapors may cause severe irritation. Splashes of liquid in eyes may cause damage.

Chronic Exposure: Repeated or prolonged inhalation or skin exposure may cause weight loss, low blood pressure, jaundice, reduced urinary output, and anemia.

Aggravation of Pre-existing Conditions: Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance.

B. FIRST AID

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion: If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Never give anything by mouth to an unconscious person. Call physician immediately.

Skin Exposure: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician.

Eye Exposure: Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

C. TOXICITY DATA

(RTECS, 1982)

Oral rat LD50: 670 mg/kg. Skin rabbit LD50: 4886mg/kg.  
 Mutation references cited. Reproductive effects cited.  
 Tumorigenic references cited.  
 Irritation eye rabbit 63 mg severe  
 skin rabbit 625 mg open mild  
 Carcinogenic Determination: There is sufficient evidence that 1,2-dichloroethane is carcinogenic in mice and rats. (NTP Third Annual Report, 1983)  
 Sufficient evidence in mice and rats. (IARC 20, 442 1979)

Occupational Control Measures

SECTION 6

Airborne Exposure Limits: -OSHA Permissible Exposure Limit (PEL): 50ppm (TWA) 100 ppm ceiling.  
 -ACGIH Threshold Limit Value (TLV): 10ppm (TWA) 15 ppm (STEL)

Ventilation System: A system of local exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the dust or vapor at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

Personal Respirators (NIOSH Approved) If the TLV is exceeded, wear a supplied air, full-facepiece respirator, airlined hood, or self-contained breathing apparatus.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls to prevent skin contact.

Eye Protection: Use chemical safety goggles and/or a full face shield where splashing is possible. Contact lenses should not be worn when working with this material.  
 Maintain eye wash fountain and quick-drench facilities in work area.

Storage and Special Information

SECTION 7

Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from oxidizing materials. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment. Wear special protective equipment (Sec. 6) for maintenance break-in or where exposures may exceed established exposure levels. Wash hands, face, forearms and neck when exiting restricted areas. Shower, dispose of outer clothing, change to clean garments at the end of the day. Avoid cross-contamination of street clothes. Wash hands before eating and do not eat, drink, or smoke in workplace.

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