MATERIAL SAFETY DATA SHEET

1,2-Dichloroethane (Ethylene Dichloride)

SECTION 1 . Product and Company Idenfication

Product Name and Synonym: 1,2-Dichloroethane (Ethylene Dichloride)

Product Code: D4490

Material Uses:

Manufacturer: Science Stuff
1104 Newport Ave

Austin, TX 78753
(512) 837-6020

Entry Date : 6/3/2013

Print Date: 6/3/2013

24 Hour Emergency Assistance : Chemtrec 800-424-9300
Canutec 613-996-6666

Health:	3
Flammability:	3
Reactivity:	0

Hazard Rating:

Least	Slight	Moderate	High	Extreme
0	1	2	3	4

NA=Not Applicable NE=Not Established

SECTION 2 HAZARD IDENTIFICATION

Keep away from heat and ignition sources. Harmful if swallowed. Avoid breathing vapors. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

Physical state: Liquid. [Colorless.]
Odor: Chloroform
OSHA/HCS status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Emergency overview:
WARNING!
CAUSES SEVERE EYE IRRITATION.
CAUSES RESPIRATORY TRACT AND SKIN IRRITATION.
HAMFUL IF INHALED OR ABSORBED THROUGH THE SKIN OR SWALLOWED
CAUSES DAMAGE TO THE FOLLOWING ORGANS:
SKIN, CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA.CARDIOVASCULAR SYSTEM, LIVER,
KIDNEYS
FLAMMABLE LIQUID AND VAPOR.
VAPOR MAY CAUSE FLASH FIRE.
MAY CAUSE CANCER
SUSPECT CANCER HAZARD

WARNING: this product contains a chemical known to the State of California to cause cancer. birth defects or other reproductive harm.

Do not ingest.
Avoid contact with eyes, skin or clothing.
Avoid breathing vapor or mist. Keep away from heat, sparks and flame.
Keep container closed.
Use only with adequate ventilation. Wash thoroughly after handling. Risk of cancer depends on duration and level of exposure.

Routes of entry:
Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects:

Eyes: Severely irritating to eyes
Skin: Toxic in contact with skin. Irritating to skin
Inhalation: Toxic by inhalation. Irritating to respiratory system.
Ingestion: Toxic if swallowed.

Carcinogenicity: May cause cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity: No known significant effects or critical hazards.
Teratogenicity/ Reproductive toxicity: No known significant effects or critical hazards.

Medical conditions aggravated by over-exposure:
Repeated skin exposure can produce local skin destruction or dermatitis. Repeated or prolonged exposure to the substance can produce lung damage. Repeated or prolonged exposure to contact with spray or mist may chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to the substance can produce target organs damage.

SECTION 3 MIXTURE COMPONENTS

SARA 313	Component	CAS Number	Percent Comp.	Dimension	Exposure Limits
☑	1,2-Dichloroethane (Ethylene Dichloride)	CAS# 107-06-2	100%	V/V	

SECTION 4 FIRST AID MEASURES

Keep away from heat and ignition sources. Harmful if swallowed. Avoid breathing vapors. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

FIRST AID: SKIN: Wash exposed area with soap and water. If irritation persists, seek medical attention.

EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen

INGESTION: Give several glasses of milk or water. Vomiting may occur spontaneously, but DO NOT INDUCE! Never give anything by mouth to an unconscious person.

SECTION 5 FIRE FIGHTING MEASURES

Fire Extinguisher Type:	Carbon Dioxide, dry chemical powder or appropriate foam
Fire / Explosion Hazards:	Vapor may travel considerable distance to source of ignition and flash back.
Fire Fighting Procedure:	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Eliminate Ignition Sources. Neutralize with: Soda lime, soda ash. Absorb with vermiculite or other inert material. Place in container.

Personal precautions: Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment. Do not touch or walk through spilled material.
Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Methods for cleaning up: If emergency personal are unavailable, contain spilled material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

SECTION 7 HANDLING AND STORAGE

Store in a cool dry well ventilated area. Keep away from heat and flame. Do not get in eyes, on skin, or on clothing.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection:	NIOSH/MSHA-approved respirator
Ventilation	
	Local Exhaust ☑
	Mechanical ☑
Protective Gloves:	NIOSH Approved Gloves
Eye Protection:	Splash Goggles
Other Protective Equipment:	Wear appropriate clothing to prevent skin exposure

Product name
United States

1,2-Dichloroethane

Exposure limits
NIOSH REL (United States, 12/2001). Notes: Appendix C (Chloroethanes) See Appendix A - NIOSH Potential Occupational Carcinogen
STEL: 8 mg/m3 15 minute(s)
STEL: 2 ppm 15 minute(s)
TWA: 4 mg/m3 10 hour(s)
TWA: 1 ppm 10 hour(s)
ACGIH TLV (United States, 12/2006) Notes: Substance identified by other sources as a suspected or confirmed human carcinogen. 1996 Adoption Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL). See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL. Refers to Appendix A -- Carcinogens
TWA: 40 mg/m3 8 hour(s)
TWA: 10 ppm 8 hour(s)
OSHA PEL 1989 9United States, 3/1989) Notes: See Table Z-2
STEL: 8 mg/m3 15 minute(s)
STEL: 2 ppm 15 minute(s)
TWA: 4 mg/m3 8 hour(s)
TWA: 1 ppm 8 hour(s)
OSHA PEL Z2 (United States, 8/1997)
AMP: 200 ppm 5 minute(s)
CEIL: 100 ppm
TWA: 50 ppm 8 hour(s)

Engineering measurers: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protection

Eyes: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
Recommended: splash goggles,
Skin: Personal protective equipment for the body should be selected based on the task being performed and risks involved and should be approved by a specialist before handling this product.
Body recommended: lab coat
Respiratory: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Hands: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Recommended:
polyvinyl alcohol (PVA)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Melting Point:	-31.9° F Freezes	Percent Volatile by Volume:	100%
Boiling Point:	181° F	Evaporation Rate	0.3
Vapor Pressure:	66	Evaporation Standard	Butylacetate =1
Vapor Density:	3.5	Auto Ignition Temp	775° F
Solubility in Water:	slight	Lower Flamm. Limit in Air	6.2
Appearance /Odors:	Colorless liquid, chloroform odor	Upper Flamm. Limit in Air	15.9
Flash Point:	58° F (13.3°C)		
Specific Gravity:	1.256		

SECTION 10 STABILITY AND REACTIVITY INFORMATION

Stability:	Stable
Conditions to Avoid:	Avoid contact with heat, sparks, flames, or other sources of ignition.
Materials to Avoid:	Oxidizing agents, metals, bases, amines.
Hazardous Decomposition Products:	Carbon dioxide, carbon monoxide, hydrogen chloride
Hazardous polymerization:	Will Not Occur
Conditions to Avoid:	None known

SECTION 11 Toxicological Information

Toxicity data- United States- Product/ ingredient name: 1,2-Dichloroethane:

LD50	500 mg/kg	Oral	Rat
LD50	860 mg/kg	Oral	Rabbit
LD50	413 mg/kg	Oral	Mouse
LD50	2800 g/kg	Dermal	Rabbit
LDLo	286 mg/kg	Oral	human
LDLo	714 mg/kg	Oral	man

Chronic effects on humans: CARCINOGENIC EFFECTS Classified + (Proven.) by NIOSH. Classified 2B (Possible for humans.) by IARC. Classified 2 (Reasonably anticipated to be human carcinogens.) by NTP, 2 (Suspected for humans.) by European Union. A4 (Not classifiable for humans or animals.) by ACGIH.
Causes damage to the following organs: kidneys, liver, cardiovascular system, skin, central nervous system (CNS), eye, lens or cornea.

Other toxic effects on humans: Extremely hazardous in case of eye contact (irritant).
Very hazardous in case of ingestion.
Hazardous in case of skin contact (irritant), of inhalation (lung irritant).

Specific effects
Carcinogenic effects: May cause cancer. Risk of cancer depends on duration and level of exposure
Mutagenic effects: No known significant effects or critical hazards
Teratogenicity/Reproductive toxicity: No known significant effects or critical hazards

Sensitization
Ingestion: No known significant effects or critical hazards
Inhalation: Irritating to respiratory system.
Eyes: Severely irritating to eyes.
Skin: Irritating to the skin

SECTION 12 Ecological Information

Ecotoxicity data
United States
Product/ ingredient name:

1,2-Dichloroethane

Daphnia magna (EC50)	48 hour(s)	160 mg/l
Daphnia magna (EC50)	48 hour(s)	180 mg/l
Daphnia magna (EC50)	48 hour(s)	324 mg/l
Pimephales promelas (LC50)	96 hour(s)	116 mg/l
Pimephales promelas (LC50)	96 hour(s)	136 mg/l
Oncorhynchus mykiss (LC50)	96 hour(s)	225 mg/l

Environmental effects : No known significant effects or critical hazards.
Products of degradation: These products are carbon oxides (CO, CO2) and water, halogenated compounds.
Toxicity of the products of biodegradation:
The products of degradation are as toxic as the product itself.

SECTION 13 Disposal Considerations

Waste disposal: the generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-product should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

SECTION 14 Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: ETHYLENE DICHLORIDE
Hazard Class: 3, 6.1
UN/NA: UN1184
Packing Group: II
Information reported for product/size: 52L

International (Water, I.M.O.)

Proper Shipping Name: ETHYLENE DICHLORIDE
Hazard Class: 3, 6.1
UN/NA: UN1184
Packing Group: II
Information reported for product/size: 52L

International (Air, I.C.A.O.)

Proper Shipping Name: ETHYLENE DICHLORIDE
Hazard Class: 3, 6.1
UN/NA: UN1184
Packing Group: II
Information reported for product/size: 52L

DOT Classification: Ethylene Dichloride, 3, 6.1, UN1184, PG II

DOT Regulations may change from time to time. Please consult the most recent D.O.T. regulations.

SECTION 15 Regulatory Information

United States

HCS Classification:
Target organ effects
Toxic material
Irritating material
Carcinogen
Flammable liquid

U.S. Federal regulations:

United States inventory (TSCA 8b): listed
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notifications: No products were found.
SARA 302/304/311/312 hazardous chemicals: 1,2-Dichloroethane
SARA 311/312 MSDS distribution- Chemical inventory- hazard identification: 1,2-Dichloroethane
Fire Hazard:
Immediate (acute) health hazard, Delayed (chronic) health hazard
Clean Water Act (CWA) 307: 1,2-Dichloroethane
Clean Water Act (CWA) 311: No products were found.
Clean Air Act (CAA) 112 accidental release prevention: No products were found.
Clean Air Act (CAA) 112 regulated flammable substance: No products were found.
Clean Air Act (CAA) 112 regulated toxic substance: No products were found.

SARA 313
Form R – Reporting Requirements: 1,2-Dichloroethane
CAS number : 107-06-2 Concentration : 100

Supplier notification : 1,2-Dichloroethane
CAS number : 107-06-2 Concentration : 100

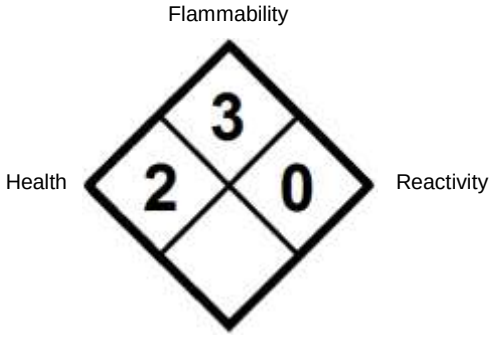
SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations:
Pennsylvania RTK: 1,2-Dichloroethane
(environmental hazard, generic environmental hazard)
Massachusetts RTK: 1,2-Dichloroethane
New Jersey: 1,2-Dichloroethane
California Prop. 65
WARNING: this product contains a chemical known to the State of California to cause cancer.
Ingredient name: 1,2-Dichloroethane
Cancer: Yes Reproductive: No No significant risk level: Yes Maximum acceptable dosage level: no

Canada
WHMIS (Canada) :
Class B-2 : Flammable liquid
Class D-1A: Material causing immediate and serious toxic effects (Very toxic)
Class D-2B: Material causing other toxic effects (Toxic)
Class D-2B: Material causing other toxic effects (Toxic).

CEPA DSL/ CEPA NDSL : CEPA DSL: 1,2-Dichloroethane
This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

SECTION 16 Additional Information



NFPA

Revisions

	0.1	Revised to correct DOT info LS
3/19/2013	0.2	updated flashpoint information. STN

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