

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name	1,2 Dichloroethane
CAS number	7580-67-8
Synonyms	Ethylene dichloride; Ethylene chloride (Certified ACS/Spectranalyzed)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Laboratory chemicals
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1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
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Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification


2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

- Flammable liquids (Category 2)
- Acute oral toxicity (Category 4)
- Acute Inhalation Toxicity - Vapors (Category 3)
- Skin Corrosion/Irritation (Category 2)
- Serious Eye Damage/Eye Irritation (Category 2)
- Carcinogenicity (Category 1B)
- Specific Target Organ Toxicity (Single Exposure) (Category 3)
- Target Organs - Respiratory system, Central Nervous System
- Specific Target Organ Toxicity (Repeated Exposure) (Category 2)

Target Organs - Kidney, Liver, Heart, Blood

2.2 GHS Label elements, including precautionary statements

Pictogram	
Signal Word	Danger
Hazard statements	<p>Highly flammable liquid and vapor Harmful if swallowed Causes skin irritation Causes serious eye irritation Toxic if inhaled May cause respiratory irritation May cause drowsiness or dizziness May cause cancer May cause damage to organs through prolonged or repeated exposure</p>
Precautionary statements	
Prevention	<p>Obtain special instructions before use Do not handle until all safety precautions have been read and understood Use personal protective equipment as required Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product Use only outdoors or in a well-ventilated area Wear eye/face protection Do not breathe dust/fumes/gas/mist/vapors/spray Keep away from heat/sparks/open flames/hot surfaces - No smoking Keep container tightly closed Ground/bond container and receiving equipment Use explosion-proof electrical/ventilating/lighting equipment Use only non-sparking tools Take precautionary measures against static discharge Keep cool</p>
Response	IF exposed or concerned: Get medical attention/advice
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Call a POISON CENTER or doctor/physician
Skin	If skin irritation occurs: Get medical attention/advice IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower Wash contaminated clothing before reuse
Eyes	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention
Ingestion	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

	Rinse mouth
Fire	In case of fire: Use CO ₂ , dry chemical, or foam for extinction
Storage	Store locked up
	Store in a well-ventilated place. Keep container tightly closed
Disposal	Dispose of contents/container to an approved waste disposal plant

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

None identified

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Ethylene dichloride	1,2 Dichloroethane	107-06-2	>95%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled	Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required.
In case of skin contact	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
In case of eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
If swallowed	Do not induce vomiting. Call a physician or Poison Control Center immediately.

4.2 Most important symptoms and effects, both acute and delayed

Breathing difficulties. May cause cardiac arrhythmia. May cause central nervous system depression: Symptoms may include tightness in the chest, flushing, headache, nausea, vomiting, respiratory depression, weakness, irregular heartbeat, abdominal pain, convulsions, and shock.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: treat symptomatically

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

Unsuitable extinguishing media Water may be ineffective.

5.2 Specific hazards arising from the substance or mixture

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Keep product and empty container away from heat and sources of ignition. Thermal decomposition can lead to release of irritating gases and vapors. Hazardous combustion products: Carbon monoxide (CO), Carbon dioxide (CO₂), Phosgene, Hydrogen chloride gas.

5.3 Special protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors

5.4 Further information

Flash Point 13 °C / 55.4 °F

Autoignition Temperature 440 °C / 824 °F

Explosion limits

Upper 15.9 vol %

Lower 6.2 vol %

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

NFPA

Health	Flammability	Instability	Physical hazards
3	3	0	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

6.2 Environmental precautions

Should not be released into the environment. See section 12 for additional Ecological information.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

6.4 Reference to other sections

See section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame.

Incompatibilities

Strong oxidizing agents. Bases. Alkali metals.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value	
Ethylene dichloride	TWA	1 ppm	4 mg/m ³
	Ceiling	100 ppm	
	STEL	2 ppm	8 mg/m ³
	TWA	50 ppm	

US. ACGIH Threshold Limit Values

Component	Type	Value
Ethylene dichloride	TWA	10 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value	
Ethylene dichloride	IDLH	50 ppm	
	TWA	1 ppm	4 mg/m ³
	STEL	2 ppm	8 mg/m ³

8.2 Exposure controls

Appropriate engineering controls

Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Tight sealing safety goggles. Face protection shield.

Skin protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Control of environmental exposure

Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Colorless
Odor	Sweet
Odor Threshold	400 ppm
pH	No information available
Melting Point/Range	-35 °C / -31 °F
Boiling Point/Range	81 - 85 °C / 177.8 - 185 °F
Evaporation Rate	6.5 (Butyl Acetate = 1.0)
Flammability (solid)	Not applicable
Flammability or explosive limit	
Upper	15.9 vol%
Lower	6.2 vol %
Vapor Pressure	65 mmHg @ 29 °C
Vapor Density	3.4
Density	1.25
Solubility	Insoluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	440 °C / 824 °F
Decomposition Temp	No information available
Viscosity	0.8 mPa s at 20 °

Molecular Formula	C2 H4 Cl2
Molecular Weight	98.96
VOC Content(%)	No information available
Oxidizing properties	No information available

9.2 Other safety information

No information available

SECTION 10: Stability and reactivity

10.1 Reactivity

None known, based on information available

10.2 Chemical stability

Stable under normal conditions

10.3 Possibility of hazardous reactions

None under normal processing

10.4 Conditions to avoid

Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.

10.5 Incompatible materials

Strong oxidizing agents, bases, alkali metals.

10.6 Hazardous decomposition products

Carbon monoxide, Carbon dioxide, Phosgene, Hydrogen chloride gas

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethylene dichloride	413 mg/kg (Mouse)	2800 mg/kg (Rabbit)	28.79 mg/L - 1h
			7.8 mg/L - 4h

Respiratory or skin sensitization

Irritating to eyes, respiratory system and skin.

Germ cell mutagenicity

No information available

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico

Ethylene dichloride	107-06-2	Group 2B	Reasonably anticipated	Not listed	X	Not listed
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Specific target organ toxicity - single exposure

Respiratory system, Central nervous system

Specific target organ toxicity - repeated exposure

Kidney, Liver, Heart, Blood

Reproductive toxicity

No information available

Chronic effects

No information available

11.2 Additional Information

The toxicological properties have not been fully investigated.

SECTION 12: Ecological information

12.1 Toxicity

Product		Species	Test Results
Ethylene dichloride	EC50	Freshwater Algae	>433 mg/L, 96h
	EC50	Freshwater Algae	166 mg/L, 96h
	LC50	Freshwater Fish	230-710 mg/L, 96h
	LC50	Freshwater Fish	110-123 mg/L, 96h
	LC50	Freshwater Algae	225 mg/L, 96h
	EC50	Freshwater Algae	140-190 mg/L, 48h

12.2 Persistence and degradability

Persistence is unlikely based on information available

12.3 Bio accumulative potential

No information available

12.4 Mobility in soil

Will likely be mobile in the environment due to its volatility.

12.5 Results of PBT and vPvB assessment

No information available

12.6 Endocrine disrupting properties

No information available

12.7 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

UN-no.	UN1184
Proper Shipping Name	ETHYLENE DICHLORIDE
Hazard Class	3
Subsidiary Hazard Class	6.1
Packing Group	II

IMDG

UN-no.	UN1184
Proper Shipping Name	ETHYLENE DICHLORIDE
Hazard Class	3
Subsidiary Hazard Class	6.1
Packing Group	II

IATA

UN-no.	UN1184
Proper Shipping Name	ETHYLENE DICHLORIDE
Hazard Class	3
Subsidiary Hazard Class	6.1
Packing Group	II

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Listed (CAS: 107-06-2) Section 4

CERCLA Hazardous Substance List (40 CFR 302.4)

Listed

SARA 304 Emergency release notification

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

See section 2 for more information

SARA 313 (TRI reporting)

>95%

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Listed

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Safe Drinking Water Act

Listed: Hazardous substances, Toxic pollutants, Priority pollutants.

RQ: 100 lb

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not listed

US state regulations

US. Massachusetts RTK - Substance List

Listed

US. New Jersey Worker and Community Right-to-Know Act

Listed

US. Pennsylvania Worker and Community Right-to-Know Law

Listed

California Proposition 65

Listed - NSRL: 10 ug/day

SECTION 16: Other information

Issue date: 07/15/2024

SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.