

Material Safety Data Sheet

Ethylene Bromide

ACC# 09380

Section 1 - Chemical Product and Company Identification

MSDS Name: Ethylene Bromide
Catalog Numbers: E173I-500
Synonyms: 1,2-Dibromoethane; Ethylene dibromide; EDB.
Company Identification:
Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410
For information, call: 201-796-7100
Emergency Number: 201-796-3100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
106-93-4	1,2-Dibromoethane	100	203-444-5

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear colorless to faint yellow liquid.
Danger! Harmful if swallowed. Harmful if inhaled. Harmful if absorbed through the skin. May cause severe eye and skin irritation with possible burns. May cause cancer in humans. May cause central nervous system depression. May cause lung damage. May cause cardiac disturbances. May cause liver and kidney damage. This substance has caused adverse reproductive and fetal effects in animals.

Target Organs: Kidneys, heart, central nervous system, liver, respiratory system, eyes, reproductive system, skin.

Potential Health Effects

Eye: Causes severe eye irritation. May result in corneal injury.
Skin: Causes severe skin irritation. Harmful if absorbed through the skin. May cause skin burns.
Ingestion: Harmful if swallowed. Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause systemic toxicity with acidosis. May cause effects similar to those for inhalation exposure.
Inhalation: Effects may be delayed. Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Irritation may lead to chemical pneumonitis and pulmonary edema. May cause liver and kidney damage. May cause heart disturbances, possibly leading to cardiac arrest and death. May cause lung damage.
Chronic: May cause fetal effects. May cause cancer in humans.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for a t least 15 minutes. Get medical aid immediately.
Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.
Ingestion: Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.
Inhalation: POISON material. If inhaled, get medical aid immediately. Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Use water spray to keep fire-exposed containers cool. Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

Extinguishing Media: Use extinguishing media most appropriate for the surrounding fire.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Do not get in eyes, on skin, or on clothing. Do not breathe vapor. Use only with adequate ventilation.
Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Storage under a nitrogen blanket has been recommended. Separate from oxidizing materials.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
1,2-Dibromoethane	Skin - potential significant contribution to overall exposure by the cutaneous route	0.045 ppm TWA 100 ppm IDLH	20 ppm TWA; 30 ppm Ceiling

OSHA Vacated PELs: 1,2-Dibromoethane: 20 ppm TWA

Personal Protective Equipment

Eyes: Wear chemical splash goggles and face shield.

Skin: Wear appropriate protective clothing to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: 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.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear colorless to faint yellow

Odor: Sweet, chloroform-like.

pH: Not available.

Vapor Pressure: 11 mm Hg @ 25 deg C

Vapor Density: 6.5 (air=1)

Evaporation Rate:~ 1.0 (butyl acetate=1)

Viscosity: Not available.

Boiling Point: 131 - 132 deg C

Freezing/Melting Point:9 - 10 deg C

Decomposition Temperature:Not available.

Solubility: Insoluble.

Specific Gravity/Density:2.18 (water=1)

Molecular Formula:C2H4Br2

Molecular Weight:187.86

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.
Conditions to Avoid: Exposure to light and/or heat in the presence of water (including moist air).

Incompatibilities with Other Materials: Strong oxidizing agents, alkali metals, ammonia.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, hydrogen bromide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 106-93-4: KH9275000

LD50/LC50:

CAS# 106-93-4:

Draize test, rabbit, eye: 1%;
Draize test, rabbit, skin: 1%/14D Severe;
Inhalation, rat: LC50 = 14300 mg/m3/30M;
Oral, rabbit: LD50 = 55 mg/kg;
Oral, rat: LD50 = 108 mg/kg;
Skin, rabbit: LD50 = 300 mg/kg;
Skin, rat: LD50 = 300 mg/kg;

Carcinogenicity:

CAS# 106-93-4:

- **ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans
- **California:** carcinogen, initial date 7/1/87
- **NTP:** Suspect carcinogen
- **IARC:** Group 2A carcinogen

Epidemiology: No data available.

Teratogenicity: No data available.

Reproductive Effects: See actual entry in RTECS for complete information.

Mutagenicity: See actual entry in RTECS for complete information.

Neurotoxicity: No data available.

Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. Bluegill (fresh water) 18mg/L/48H

Environmental: No information available.

Physical: No information available.

Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series:

CAS# 106-93-4: waste number U067.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	ETHYLENE DIBROMIDE	No information available.
Hazard Class:	6.1	
UN Number:	UN1605	
Packing Group:	I	

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 106-93-4 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

CAS# 106-93-4: 1 lb final RQ; 0.454 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 106-93-4: immediate, delayed.

Section 313

This material contains 1,2-Dibromoethane (**CAS#** 106-93-4, 100%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR

Clean Air Act:

CAS# 106-93-4 is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

CAS# 106-93-4 is listed as a Hazardous Substance under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 106-93-4 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act:

WARNING: This product contains 1,2-Dibromoethane, a chemical known to the state of California to cause male reproductive toxicity.

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California No Significant Risk Level: **CAS#** 106-93-4: 0.2 æg/day NSRL (oral); 3 æg/day NSRL (inhalation)

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T N

Risk Phrases:

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R 36/37/38 Irritating to eyes, respiratory system and skin.
R 45 Cause cancer.
R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 53 Avoid exposure - obtain special instructions before use.
S 61 Avoid release to the environment. Refer to special instructions / safety data sheets.

WGK (Water Danger/Protection)

CAS# 106-93-4: 3

Canada - DSL/NDSL

CAS# 106-93-4 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1A, D2A.

This product has a WHMIS classification in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 106-93-4 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 12/12/1997

Revision #7 Date: 12/10/2007

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.