Material Safety Data Sheet
2,3-Dibromopropanol, 96%

ACC# 29143

Section 1 - Chemical Product and Company Identification

MSDS Name: 2,3-Dibromopropanol, 96%
Catalog Numbers: AC112890000, AC112890050, AC112891000, AC112895000, AC9577150, XXAC11289-20
Synonyms: 2,3-Dibromopropan-1-ol; 2,3-Dibromo-1-propanol; 2,3-Dibromopropyl alcohol; Brominex 257; DBP (flame retardant); NCI-C55436; USAF DO-42.
Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100
Emergency Number: 201-796-7100
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
96-13-9	2,3-Dibromopropanol	96	202-480-9

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless viscous liquid.
Warning! Causes severe eye irritation. Harmful if absorbed through the skin. Causes skin and respiratory tract irritation. May be harmful if swallowed or inhaled. Potential cancer hazard. Possible risk of impaired fertility.
Target Organs: Eyes, skin, mucous membranes.

Potential Health Effects
Eye: Causes severe eye irritation. May cause chemical conjunctivitis.
Skin: Causes skin irritation. Harmful if absorbed through the skin.
Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May be harmful if swallowed.
Inhalation: Causes respiratory tract irritation. Can produce delayed pulmonary edema.
Chronic: May impair fertility. Toxicology & carcinogenesis studies of 2,3-dibromo-1-propanol were conducted by applying the chemical in 95% ethanol to the interscapular skin of male and female rats and mice. In rats, neoplasms induced by 2,3-dibromo-1-propanol occurred in the skin, nasal mucosa, Zymbal's gland, oral mucosa, esophagus, forestomach, intestines, liver, kidney, mammary gland (females), clitoral gland (females), spleen (males), and mesothelium (males). In mice, chemical induced neoplasms occurred in the skin, forestomach, liver (males), and lung (males).

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid imme diately.
Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
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. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.
Extinguishing Media: Use extinguishing media most appropriate for the surrounding fire.
Flash Point: > 110 deg C (> 230.00 deg F)
Autoignition Temperature: Not applicable.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 2; Flammability: 1; 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. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Use only with adequate ventilation. Avoid breathing vapor or mist.
Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

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 ventilation to keep airborne concentrations low.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
2,3-Dibromopropanol	none listed	none listed	none listed

OSHA Vacated PELs: 2,3-Dibromopropanol: No OSHA Vacated PELs are listed for this chemical.
Personal Protective Equipment
Eyes: Wear chemical splash goggles.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Viscous liquid
Appearance: clear, colorless
Odor: None reported.
pH: Not available.
Vapor Pressure: 0.09 mm Hg @ 25 deg C
Vapor Density: 7.51
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 219 deg C
Freezing/Melting Point: Not available.
Decomposition Temperature: Not available.
Solubility: 52 g/l @ 25°C
Specific Gravity/Density:2.120 @ 20°C/4°C
Molecular Formula:C3H6Br2O
Molecular Weight:217.89

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Excess heat, confined spaces.
Incompatibilities with Other Materials: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, hydrogen bromide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 96-13-9: UB0175000
LD50/LC50:
CAS# 96-13-9:
Draize test, rabbit, eye: 100 uL/24H Severe;
Inhalation, rat: LC50 = 9920 mg/m3/4H;
Oral, rat: LD50 = 681 mg/kg;
Skin, rabbit: LD50 = 316 mg/kg;
.

Carcinogenicity:
CAS# 96-13-9:

- **ACGIH:** Not listed.
- **California:** carcinogen, initial date 10/01/94
- **NTP:** Suspect carcinogen

- **IARC:** Group 2B carcinogen

Epidemiology: No information found
Teratogenicity: No information available.
Reproductive Effects: Possible risk of impaired fertility.
Mutagenicity: Unscheduled DNA Synthesis: Rat, Liver = 100 umol/L.; Morphological Transformation: Hamster, Embryo = 500 nmol/L.; Mutation in Mammalian Somatic Cells: Hamster, Lung = 20 umol/L.
Neurotoxicity: No information available.
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. If released into water, 2,3-dibromopropanol is not expected to adsorb to suspended solids and sediment in the water column based upon the estimated Koc. Volatilization from water surfaces is not expected to be an important fate process. An estimated BCF of 3 suggests the potential for bioconcentration in aquatic organisms is low. 2,3-Dibromopropanol may slowly hydrolyze in basic waters although the rate of this process is expected to be slower than for biodegradation.
Environmental: If released to air, a vapor pressure of 0.09 mm Hg at 25°C indicates 2,3-dibromopropanol will exist solely as a vapor in the ambient atmosphere. Vapor-phase 2,3-dibromopropanol will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 8 days. If released to soil, 2,3-dibromopropanol is expected to have very high mobility based upon an estimated Koc of 4. Volatilization from moist soil surfaces is not expected to be an important fate process.
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: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	TOXIC LIQUIDS, ORGANIC, N.O.S.	TOXIC LIQUID, ORGANIC, N.O.S.
Hazard Class:	6.1	6.1
UN Number:	UN2810	UN2810
Packing Group:	III	III

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 96-13-9 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
None of the chemicals in this material have an RQ.
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
Section 313 No chemicals are reportable under Section 313.
Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances 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# 96-13-9 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

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 2,3-Dibromopropanol, a chemical known to the state of California to cause cancer.

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

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Risk Phrases:

R 20/22 Harmful by inhalation and if swallowed.
R 24 Toxic in contact with skin.
R 45 May cause cancer.
R 62 Possible risk of impaired fertility.
R 52/53 Harmful 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# 96-13-9: 2

Canada - DSL/NDSL

CAS# 96-13-9 is listed on Canada's NDSL List.

Canada - WHMIS

This product has a WHMIS classification of D2A, D1B.
This product has been classified 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

Section 16 - Additional Information

MSDS Creation Date: 9/02/1997
Revision #6 Date: 9/10/2004