

Material Safety Data Sheet

1-Bromopropane, 99%

ACC# 91748

Section 1 - Chemical Product and Company Identification

MSDS Name: 1-Bromopropane, 99%

Catalog Numbers: AC107310010, AC107310050, AC107312500, AC107315000

Synonyms: n-Propyl bromide.

Company Identification:

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
106-94-5	1-Bromopropane	99	203-445-0

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: -4.5 deg C.

Warning! Flammable liquid and vapor. Breathing vapors may cause drowsiness and dizziness. Causes eye, skin, and respiratory tract irritation. May impair fertility. Harmful if inhaled. Possible risk of harm to the unborn child. May cause nervous system effects. May cause liver damage.

Target Organs: Liver, nervous system, reproductive system.

Potential Health Effects

Eye: Causes eye irritation.

Skin: Causes skin irritation. May be harmful if absorbed through the skin.

Ingestion: May cause irritation of the digestive tract.

Inhalation: Harmful if inhaled. Causes respiratory tract irritation. May cause liver damage. Inhalation of vapors may cause drowsiness and dizziness.

Chronic: Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion. There are not enough human data on 1-bromopropane to determine whether the chemical has harmed human reproduction and development. However, research on lab rats shows 1-bromopropane can damage reproduction and development in that animal. Effects, such as a lengthened estrous (reproductive) cycle, occurred when female rats inhaled 1-bromopropane at concentrations of 250 ppm.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Remove contaminated clothing and shoes.

Ingestion: 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: Get medical aid immediately. Remove from exposure and move to fresh air immediately. 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. Vapors may form an explosive mixture with air. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. Flammable liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Flash Point: -4.5 deg C (23.90 deg F)

Autoignition Temperature: 490 deg C (914.00 deg F)

Explosion Limits, Lower: 4.60 vol %

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 3; 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. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Keep away from heat, sparks and flame. Avoid breathing vapor or mist.

Storage: Keep away from sources of ignition. 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: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
1-Bromopropane	10 ppm TWA	none listed	none listed

OSHA Vacated PELs: 1-Bromopropane: 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: 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

Odor: pleasant odor

pH: Not available.

Vapor Pressure: 146 mm Hg @ 20 deg C

Vapor Density: 4.34 (air=1)

Evaporation Rate: Not available.

Viscosity: 0.52 mPa.s @ 20 deg C

Boiling Point: 71 deg C @ 760 mm Hg

Freezing/Melting Point: -110 deg C

Decomposition Temperature: Not available.

Solubility: 2.5 g/l (20°C)

Specific Gravity/Density: 1.353 g/ml

Molecular Formula: C₃H₇Br

Molecular Weight: 122.99

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Ignition sources, excess heat.

Incompatibilities with Other Materials: Strong oxidizing agents, aluminum, zinc.

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

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 106-94-5: TX4110000

LD50/LC50:

CAS# 106-94-5:

Inhalation, mouse: LC50 = 7100 mg/m³;

Inhalation, rat: LC50 = 253 gm/m³/30M;

Inhalation, rat: LC50 = 19700 mg/m³;

Oral, mouse: LD50 = 4700 mg/kg;

Oral, rat: LD50 = 3600 mg/kg;

Carcinogenicity:

CAS# 106-94-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found

Teratogenicity: No information available.

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

Mutagenicity: No information available.

Neurotoxicity: Neurotoxic effects have occurred in experimental animals.

Other Studies:

Section 12 - Ecological Information

Ecotoxicity: Fish: Fathead Minnow: 67.3 mg/l; 96H; LC50

Daphnia: Daphnia: 208.9 mg/l; 24H; EC50

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:	BROMOPROPANES	BROMOPROPANES
Hazard Class:	3	3
UN Number:	UN2344	UN2344
Packing Group:	II	II

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 106-94-5 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.

SARA Codes

CAS # 106-94-5: immediate, delayed, fire.

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 depleters.

This material does not contain any Class 2 Ozone depleters.

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# 106-94-5 can be found on the following state right to know lists: Pennsylvania, 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-Bromopropane, a chemical known to the state of California to cause male reproductive toxicity.

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:

T F

Risk Phrases:

R 11 Highly flammable.

R 36/37/38 Irritating to eyes, respiratory system and skin.

R 48/20 Harmful : danger of serious damage to health by prolonged exposure through inhalation.

R 60 May impair fertility.

R 63 Possible risk of harm to the unborn child.

R 67 Vapours may cause drowsiness and dizziness.

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.

WGK (Water Danger/Protection)

CAS# 106-94-5: No information available.

Canada - DSL/NDSL

CAS# 106-94-5 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B2, D2A, D2B.

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: 11/12/1998

Revision #4 Date: 9/12/2005

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.