

Material Safety Data Sheet

1-Bromobutane, 99%

ACC# 96286

Section 1 - Chemical Product and Company Identification

MSDS Name: 1-Bromobutane, 99%

Catalog Numbers: AC106770000, AC106770010, AC106770050, AC106772500

Synonyms: 1-Bromobutane.

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
109-65-9	BUTYL BROMIDE	>99%	203-691-9

Hazard Symbols: XI

Risk Phrases: 10 37

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear very light yellow liquid. Flash Point: 13 deg C. **Warning! Flammable liquid and vapor.** May cause eye and skin irritation. May cause respiratory and digestive tract irritation. The toxicological properties of this material have not been fully investigated.

Target Organs: None.

Potential Health Effects

Eye: May cause eye irritation. May cause conjunctivitis.

Skin: Causes skin irritation.

Ingestion: May cause irritation of the digestive tract. The toxicological properties of this substance have not been fully investigated.

Inhalation: May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.

Chronic: No information found.

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 immediately.

Skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. 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 if cough or other symptoms appear.

Notes to Physician: Treat symptomatically and supportively.

Antidote: No specific antidote exists.

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 can travel to a source of ignition and flash back. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint.

Extinguishing Media: For small fires, use water spray, dry chemical, carbon dioxide or chemical foam.

Flash Point: 13 deg C (55.40 deg F)

Autoignition Temperature: 265 deg C (509.00 deg F)

Explosion Limits, Lower: 2.60 vol %

Upper: 6.60 vol %

NFPA Rating: 1 - health, 3 - flammability, 0 - instability

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Scoop up with a nonsparking tool, then place into a suitable container for disposal. Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as sawdust.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with skin and eyes. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Avoid ingestion and inhalation. Do not ingest or inhale. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

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. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: 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
BUTYL BROMIDE	none listed	none listed	none listed

OSHA Vacated PELs: BUTYL BROMIDE: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: 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.

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. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear very light yellow

Odor: None reported.

pH: Not available.

Vapor Pressure: 40 mm Hg @ 25 C

Vapor Density: 4.7 (air=1)

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 100.0 - 104.0 deg C @ 760.00mm Hg

Freezing/Melting Point: -112.00 - -0.00 deg

Decomposition Temperature: Not available.

Solubility: 0.608 G/L WATER (30°C)

Specific Gravity/Density: 1.2760g/cm³

Molecular Formula: C₄H₉Br

Molecular Weight: 137.02

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, ignition sources.

Incompatibilities with Other Materials: Strong oxidizing agents, strong bases, magnesium, sodium, potassium.

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

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 109-65-9: EJ6225000

LD50/LC50:

CAS# 109-65-9:

Inhalation, mouse: LC50 = 25000 mg/m³/2H;

Inhalation, rat: LC50 = 47000 mg/m³/2H;

Oral, rat: LD50 = 2761 mg/kg;

Carcinogenicity:

CAS# 109-65-9: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Neurotoxicity: No information available.

Mutagenicity: No information available.

Other Studies: None.

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.
Environmental: No information reported.
Physical: No information available.
Other: None.

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	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	1-BROMOBUTANE				No information available.
Hazard Class:	3				
UN Number:	UN1126				
Packing Group:	II				

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 109-65-9 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.

SARA

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 # 109-65-9: acute, flammable.

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# 109-65-9 can be found on the following state right to know lists: New Jersey, Pennsylvania, Massachusetts.

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:

XI

Risk Phrases:

R 10 Flammable.

R 37 Irritating to respiratory system.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 23 Do not inhale gas/fumes/vapour/spray.

WGK (Water Danger/Protection)

CAS# 109-65-9: 2

Canada - DSL/NDSL

CAS# 109-65-9 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B2.

Canadian Ingredient Disclosure List

CAS# 109-65-9 is listed on the Canadian Ingredient Disclosure List.

Exposure Limits

CAS# 109-65-9: OEL-RUSSIA:STEL 0.3 mg/m³;Skin

Section 16 - Additional Information

MSDS Creation Date: 9/02/1997

Revision #2 Date: 3/18/2003

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.