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CAT NO: AC168830050

PO NBR: N/A

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**** MATERIAL SAFETY DATA SHEET ****

1-Bromo-2-methylpropane, 98+-% (gc)
89285

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****
MSDS Name: 1-Bromo-2-methylpropane, 98+-% (gc)
Catalog Numbers: AC168830000, AC168830050, AC168835000
Synonyms: Isobutyl bromide
Company Identification: Acros Organics N.V.
One Reagent Lane
Fairlawn, 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	%	EINECS#
78-77-3	1-BROMO-2-METHYLPROPANE	98+-%	201-141-2

**** SECTION 3 - HAZARDS IDENTIFICATION ****
EMERGENCY OVERVIEW
Appearance: Not available. Flash Point: 18 deg C.
Cancer suspect agent.
Target Organs: None known.

Potential Health Effects
Eye: May cause eye irritation.
Skin: May cause skin irritation.
Ingestion: 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: Not available.

**** SECTION 4 - FIRST AID MEASURES ****
Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid.
Skin: Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.
Ingestion: Get medical aid immediately. Wash mouth out with water.
Inhalation: Remove from exposure 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 clothing. Extinguish fire by removing the source of ignition. Vapors can travel to source of ignition and flash back. Containers may explode in the heat of a fire. Flammable Liquid.
Extinguishing Media:
Use water spray to cool fire-exposed containers. Use foam, dry chemical, or carbon dioxide. Water may be ineffective.
Autoignition Temperature: Not available.
Flash Point: 18 deg C (64.40 deg F)
NFPA Rating: Not published.
Explosion Limits, Lower: Not available.
Upper: Not available.

**** 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., dry sand or earth), then place into a chemical waste container. Remove all sources of

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**** SECTION 7 - HANDLING AND STORAGE ****

Ignition. Use a spark-proof tool.

Handling:
Use spark-proof tools and explosion proof equipment. Avoid breathing dust, vapor, mist, or gas. Avoid contact with skin and eyes.
Store in a cool, dry place. Store in a tightly closed container. Flammables-area.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****
Engineering Controls:
Use adequate ventilation to keep airborne concentrations low.

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
1-BROMO-2-METHYLPRO-PANE	none listed	none listed	none listed

OSHA Vacated PELs:
1-BROMO-2-METHYLPROPANE:
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.
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 29CFR 1910.134. Always use a NIOSH-approved respirator when necessary.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****
Physical State: Liquid
Appearance: Not available.
Odor: Not available.
pH: Not available.
Vapor Pressure: 1033 hPa @ 91 deg C
Vapor Density: Not available.
Evaporation Rate: Not available.
Boiling Point: Not available.
Freezing/Melting Point: 90 - 92 deg C @ 760.00mm Hg
Decomposition Temperature: 108 deg C
Solubility: soluble in most common organic solvents
Specific Gravity/Density: 1.2600g/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.
Hazardous Decomposition Products:
Carbon monoxide, carbon dioxide, hydrogen bromide.
Hazardous Polymerization: Will not occur.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****
RTCS#:
CAS# 78-77-3: TX4140000
LD50/LC50:
Not available.
Carcinogenicity:
1-BROMO-2-METHYLPROPANE - Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiological Data:
See actual Rtecs for complete information.
Teratogenicity:
No data available.
Reproductive Effects:

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No data available.
Neurotoxicity:
No data available.
Mutagenicity:
No data available.
Other Studies:
No data available.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecotoxicity:
Not available.
Environmental Fate:
Not available.
Physical/Chemical:
Not available.
Other:
Not available.

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Dispose of in a manner consistent with federal, state, and local regulations.
RCRA D-Series Maximum Concentration of Contaminants:
RCRA D-Series Chronic Toxicity Reference Levels: None listed.
RCRA F-Series: None listed.
RCRA P-Series: None listed.
RCRA U-Series: None listed.
Not listed as a material banned from land disposal according to RCRA.

**** SECTION 14 - TRANSPORT INFORMATION ****

US DOT
Shipping Name: BROMOMETHYLPROPANES
Hazard Class: 3
UN Number: 2342
Packing Group: II

IMO
Shipping Name: BROMOMETHYLPROPANES
Hazard Class: 3
UN Number: 2342
Packing Group: II

IATA
Shipping Name: BROMOMETHYLPROPANES
Hazard Class: 3
UN Number: 2342
Packing Group: II

RID/ADR
Shipping Name: BROMOMETHYLPROPANES
Dangerous Goods Code: 2342
Canadian TDG
Shipping Name: BROMOMETHYLPROPANES
Hazard Class: 3
UN Number: UN2342
Other Information: FLASHPOINT 18C

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL
TSCA
CAS# 78-77-3 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
Section 302 (RQ)
None of the chemicals in this material have an RQ.
Section 302 (TPQ)
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 78-77-3: 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

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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
1-BROMO-2-METHYLPROPANE can be found on the following state right to know lists:
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: F
Risk Phrases: 11 Highly flammable.
Safety Phrases:
S 16 Keep away from sources of ignition - No smoking.
S 33 Take precautionary measures against static discharges.
S 9 Keep container in a well-ventilated place.
WGK (Water Danger/Protection)
CAS# 78-77-3:
Canada
CAS# 78-77-3 is listed on Canada's DSL/NDSL List.
This product does not have a WHMIS classification.
CAS# 78-77-3 is not listed on Canada's Ingredient Disclosure List.
Exposure Limits

**** SECTION 16 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 3/01/1994 Revision #1 Date: 10/21/1996

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 way 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.

Hazardous Polymerization: Has not been reported.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#:
CAS# 108-86-1: CY9000000

LD50/LC50:
CAS# 108-86-1: Inhalation, mouse: LC50 = 21 gm/m3/2H; Inhalation,
rat: LC50 = 20411 mg/m3; Oral, mouse: LD50 = 2700 mg/kg; Oral, rabbit:
LD50 = 3300 mg/kg; Oral, rat: LD50 = 2699 mg/kg.

Carcinogenicity:
BROMOBENZENE -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology:
No data available.

Teratogenicity:
No data available.

Reproductive Effects:
No data available.

Neurotoxicity:
No data available.

Mutagenicity:
No data available.

Other Studies:
No data available.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecotoxicity:
Not available.

Environmental Fate:
Not available.

Physical/Chemical:
Not available.

Other:
Not available.

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Dispose of in a manner consistent with federal, state, and local regulations.

RCRA D-Series Maximum Concentration of Contaminants:
None listed.

RCRA D-Series Chronic Toxicity Reference Levels: None
listed.

RCRA F-Series: None listed.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Not listed as material banned from land disposal
according to RCRA.

**** SECTION 14 - TRANSPORT INFORMATION ****

US DOT

Shipping Name: BROMOBENZENE

Hazard Class: 3

UN Number: UN2514

Packing Group: III

IMO No information available.

IATA No information available.

RID/ADR information available.

Canadian TDG
No information available.

Shipping Name: BROMOBENZENE

Hazard Class: 3

UN Number: UN2514

Other Information: FLASHPOINT 51 C

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL

TSCA

CAS# 108-86-1 is listed on the TSCA inventory.

Health & Safety Reporting List
CAS# 108-86-1: Effective Date: June 1, 1987; Sunset Date: December 19,

Chemical Test Rules
Section 12b
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

Section 302 (RQ)
None of the chemicals in this material have an RQ.

Section 302 (TPQ)
None of the chemicals in this product have a TPQ.

SARA Codes
CAS # 108-86-1: acute, chronic, 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:
BROMOBENZENE can be found on the following state right to know lists:

New Jersey, Florida, 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 N

Risk Phrases:
R 10 Flammable.

R 38 Irritating to skin.

R 51/53 Toxic to aquatic organisms; may cause

long-term adverse effects in the aquatic environment.

Safety Phrases:
S 61 Avoid release to the environment. Refer to

special instructions/Safety data sheets.

WGK (Water Danger Protection)
CAS# 108-86-1: 2

Canada
CAS# 108-86-1 is listed on Canada's DSL/NDSL List.

This product has a WHMIS classification of B3, D2B.

CAS# 108-86-1 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits
CAS# 108-86-1: OEL-HUNGARY: TWA 3 mg/m3; STEL 6 mg/m3; Skin. OEL-RUSSIA
: STEL 3 mg/m3

**** SECTION 16 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 4/06/1995 Revision #5 Date: 12/12/1997

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