

SAFETY DATA SHEET

Preparation Date: 5/23/2014

Revision Date: 5/23/2014

Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: B2072
Product Name: 1-BROMO-3-CHLOROPROPANE

Other means of identification

Synonyms: omega-Chlorobromopropane
3-Chloropropyl bromide
3-Bromopropyl chloride
Trimethylene bromide chloride
trimethylene chlorobromide

CAS #: 109-70-6
RTECS # TX4113000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Chemical intermediate. In organic synthesis.
Uses advised against No information available

Supplier: Spectrum Chemicals and Laboratory Products, Inc.
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000

Order Online At: <https://www.spectrumchemical.com>

Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Regina Wachenheim (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Vapors)	Category 3
Flammable liquids	Category 3

Label elements

Danger

Hazard statements

Harmful if swallowed

Toxic if inhaled

Flammable liquid and vapor



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

May be harmful in contact with skin

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Avoid breathing dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Keep away from heat/sparks/open flames/hot surfaces. — No smoking

Keep container tightly closed

Ground/bond container and receiving equipment

Use explosion-proof electrical/ventilating/lighting/ .? /equipment

Use only non-sparking tools

Take precautionary measures against static discharge

Wear protective gloves/protective clothing/eye protection/face protection

Keep cool

Precautionary Statements - Response

Specific treatment (see .? on this label)

In case of fire: Use CO₂, dry chemical, or foam to extinguish.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed

Store locked up

Product code: B2072

Product name: 1-BROMO-3-
CHLOROPROPANE

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Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %	Trade Secret
1-Bromo-3-chloropropane 109-70-6	109-70-6	100	*

4. FIRST AID MEASURES

First aid measures

General Advice:

Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Skin Contact:

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops. Consult a physician if necessary.

Eye Contact:

Flush eye with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

Inhalation:

Toxic by inhalation. Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention.

Ingestion:

Harmful if swallowed. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms

May cause eye irritation. May cause skin irritation. Causes digestive (gastrointestinal) tract irritation. May cause nausea and vomiting. May cause diarrhea. Central nervous system effects.

Indication of any immediate medical attention and special treatment needed

Notes to Physician:

Treat symptomatically

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media:

Carbon dioxide (CO₂). Dry chemical. Alcohol-resistant foam. Water spray.

Unsuitable Extinguishing Media:

Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Hazardous Combustion Products:

Carbon monoxide; Carbon dioxide; Hydrogen bromide gas;
Hydrogen chloride gas

Specific hazards:

Flammable. May be ignited by heat, sparks or flames. Container explosion may occur under fire conditions or when heated. Vapor may travel considerable distance to source of ignition and flash back. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks). Fire may produce irritating, corrosive and/or toxic gases.

Special Protective Actions for Firefighters**Specific Methods:**

Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out.

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures****Personal Precautions:**

Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods and material for containment and cleaning up**Methods for containment**

Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth).

Methods for cleaning up

Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE**Precautions for safe handling****Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

Safe Handling Advice:

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Keep away from heat and sources of ignition. Store in a segregated and approved area. Store away from incompatible materials.

Incompatible Materials:

Oxidizing agents. Bases. Metals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
1-Bromo-3-chloropropane - 109-70-6	None	None	None	None

Canada

Components	Alberta	British Columbia	Ontario	Quebec
1-Bromo-3-chloropropane - 109-70-6	None	None	None	None

Australia and Mexico

Components	Australia	Mexico
1-Bromo-3-chloropropane 109-70-6	None	None

Appropriate engineering controls

Engineering measures to reduce exposure: Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Safety glasses

Skin and body protection: Usual safety precautions while handling the product will provide adequate protection against this potential effect.

Respiratory protection: Suitable respiratory equipment:

Hygiene measures: Avoid contact with skin, eyes and clothing.

10. STABILITY AND REACTIVITY

Reactivity

Reactive with oxidizing agents
Reacts with bases
Reacts with alkali metals

Chemical stability

Stability: Stable at normal conditions

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Stable at normal conditions
Incompatible Materials: Oxidizing agents. Bases. Metals.
Hazardous decomposition products: Carbon monoxide. Carbon dioxide. Hydrogen bromide gas. Hydrogen chloride gas.

Other Information

Corrosivity: No information available
Special Remarks on Corrosivity: No information available

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid.	Appearance: No information available	Color: Clear. Colorless.
Odor: Sweet. Chloroform-like.	Taste No information available	Formula: Cl(CH ₂) ₃ Br
Molecular/Formula weight: 157.44	Flash point (°C): 45	Flashpoint (°C/°F): 45-57 °C/113-134.6 °F
Flash Point Tested according to: Closed cup	Lower Explosion Limit (%): No information available	Upper Explosion Limit (%): No information available
Autoignition Temperature (°C/°F): No information available	pH: No information available	Melting point/range(°C/°F): -59 °C/-74.2 °F
Boiling point/range(°C/°F): 143-145 °C/289.4-293 °F	Decomposition temperature(°C/°F): No information available	Specific gravity: 1.592
Density (g/cm³): No information available	Bulk density: No information available	Vapor pressure @ 20°C (kPa): No information available
Evaporation rate: No information available	Vapor density: No information available	VOC content (g/L): No information available
Odor threshold (ppm): No information available	Partition coefficient (n-octanol/water): No information available	Viscosity: No information available
Miscibility: No information available	Solubility: Insoluble in water	

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Skin. Ingestion. Inhalation.

Acute Toxicity

Component Information

1-Bromo-3-chloropropane - 109-70-6

LD50/oral/rat = 680 mg/kg Oral LD50 Rat (LOLI)

930-1100 mg/kg (RTECS)

LD50/oral/mouse = 1290 mg/kg

LD50/dermal/rabbit = 3000 mg/kg Dermal LD50Rabbit

LD50/dermal/rat = > 2000 mg/kg Dermal LD50 Rat

LC50/inhalation/rat = 7.27 mg/L Inhalation LC50 Rat 4 h (LOLI)

6.5 mg/L 4 hr (RTECS)

LC50/inhalation/mouse = No information available

Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =

VALUE- Acute Tox Oral = 680mg/kg

LD50/oral/mouse =

Value - Acute Tox Oral = 1290mg/kg

LD50/dermal/rabbit

VALUE-Acute Tox Dermal = 3000mg/kg

LD50/dermal/rat

VALUE -Acute Tox Dermal = >2000mg/kg

LC50/inhalation/rat

VALUE-Vapor = 6.5mg/l (4-hr)

VALUE-Gas = No information available

VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: May cause skin irritation. It may be absorbed through the skin.

Eye Contact: May cause eye irritation.

Inhalation Toxic by inhalation. May cause irritation of respiratory tract.

Ingestion Harmful if swallowed. Causes digestive (gastrointestinal) tract irritation. Ingestion may cause nausea, vomiting, diarrhea. May affect behavior/central nervous system(somnolence, excitement, muscle weakness).

Aspiration hazard No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity No information available

Sensitization: No information available

Mutagenic Effects: No information available

Carcinogenic effects: Not considered carcinogenic

Components	ACGIH - Carcinogens	IARC	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
1-Bromo-3-chloropropane	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

Reproductive toxicity No data is available

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available
STOT - repeated exposure No information available
Target Organs: No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: No data available.
Persistence and degradability: No information available
Bioaccumulative potential: No information available
Mobility: No information available

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
1-Bromo-3-chloropropane	None	None	None	None

14. TRANSPORT INFORMATION

DOT
UN-No: UN2688
Proper Shipping Name: 1-Bromo-3-chloropropane
Hazard Class: 6.1
Subsidiary Risk: Not applicable
Packing Group: III

14. TRANSPORT INFORMATION

Marine Pollutant No data available
ERG No: 159
DOT RQ (lbs): No information available

TDG (Canada)

UN-No: UN2688
Proper Shipping Name: 1-Bromo-3-chloropropane
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Description: No information available

ADR

UN-No: UN2688
Proper Shipping Name: 1-Bromo-3-chloropropane
Hazard Class: 6.1
Packing Group: III
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG

UN-No: UN2688
Proper Shipping Name: 1-Bromo-3-chloropropane
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Description: No information available
IMDG Page: No information available
Marine Pollutant No information available
EMS: F-A
MFAG: No information available
Maximum Quantity: No information available

RID

UN-No: UN2688
Proper Shipping Name: 1-Bromo-3-chloropropane
Hazard Class: 6.1
Subsidiary Risk: 6.1
Packing Group: III
Classification Code: No information available
Description: No information available

ICAO

UN-No: UN2688
Proper Shipping Name: 1-Bromo-3-chloropropane
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Description: No information available

IATA

UN-No: UN2688
Proper Shipping Name: 1-Bromo-3-chloropropane
Hazard Class: 6.1

14. TRANSPORT INFORMATION

Subsidiary Risk: No information available
Packing Group: III
ERG Code: 6L
Description: No information available

15. REGULATORY INFORMATION**International Inventories**

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
1-Bromo-3-chloropropane	Present	Present KE-03643	Present	Present (9)-370 (9)-1247 (9)-2007	Present	Present	Present 203-697-1

U.S. Regulations

1-Bromo-3-chloropropane

New Jersey RTK Hazardous Substance List: Present

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.**Chemicals Known to the State of California to Cause Cancer:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
1-Bromo-3-chloropropane	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
1-Bromo-3-chloropropane	None	None	None	None	None

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
1-Bromo-3-chloropropane	Not Applicable	Not Applicable

Canada**WHMIS hazard class:**

B3 Combustible liquid

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
1-Bromo-3-chloropropane	1 %

Inventory

Components	Canada (DSL)	Canada (NDSL)
1-Bromo-3-chloropropane	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
1-Bromo-3-chloropropane	Not listed	Not listed

EU Classification

R-phrase(s)

R20 - Harmful by inhalation.

R22 - Harmful if swallowed.

R10 - Flammable.

S -phrase(s)

S46 - If swallowed, seek medical advice immediately and show this container or label.

Components	Classification	Concentration Limits:	Safety Phrases
1-Bromo-3-chloropropane		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

Xn - Harmful.

Xn



16. OTHER INFORMATION

16. OTHER INFORMATION

NFPA	HMIS	Personal Protective Equipment
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Health Hazard	2
Fire Hazard	2
Reactivity	0



See Section 8.

Preparation Date: 5/23/2014
Revision Date: 5/23/2014
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Material Safety Data Sheet