

Label Elements

Hazard Symbol:



Signal Word:

Danger

Hazard Statement:

Contains gas under pressure; may explode if heated.
Causes skin irritation.
Causes serious eye irritation.
May cause cancer.
May damage fertility or the unborn child.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.
Harmful to aquatic life.

Precautionary Statements

Prevention:

Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid release to the environment.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Call a POISON CENTER/doctor if you feel unwell. Specific treatment (see on this label). Take off contaminated clothing.

Storage:

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

Disposal:

Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC):

None.



3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Propane, 1-bromo-	106-94-5	50 - <100%
Carbon dioxide	124-38-9	1 - <5%
1-Propanol	71-23-8	1 - <3%
2-Propanol, 2-methyl-	75-65-0	1 - <5%
Oxirane, 2-ethyl-	106-88-7	1 - <5%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion:	Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
Inhalation:	Move to fresh air.
Skin Contact:	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. Get medical attention.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Most important symptoms/effects, acute and delayed

Symptoms: No data available.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: No data available.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.



Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and material for containment and cleaning up: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste.

Notification Procedures: Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid release to the environment.

7. Handling and storage

Precautions for safe handling: Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with eyes. Avoid contact with skin.

Conditions for safe storage, including any incompatibilities: Store locked up. Aerosol Level 1

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Propane, 1-bromo-	TWA	0.1 ppm	US. ACGIH Threshold Limit Values (02 2014)
Carbon dioxide	TWA	5,000 ppm	US. ACGIH Threshold Limit Values (2008)
	STEL	30,000 ppm	US. ACGIH Threshold Limit Values (2008)
	STEL	30,000 ppm 54,000 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	REL	5,000 ppm 9,000 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	5,000 ppm 9,000 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	10,000 ppm 18,000 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	30,000 ppm 54,000 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	200 ppm 500 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
1-Propanol	REL	200 ppm 500 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	STEL	250 ppm 625 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	200 ppm 500 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	100 ppm	US. ACGIH Threshold Limit Values (2008)
	STEL	250 ppm 625 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	150 ppm 450 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
2-Propanol, 2-methyl-	TWA	100 ppm 300 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	PEL	100 ppm 300 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	100 ppm	US. ACGIH Threshold Limit Values (2008)
	STEL	150 ppm 450 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	REL	100 ppm 300 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)



Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

General information: Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin Protection

Hand Protection: No data available.

Other: Wear suitable protective clothing. Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection: In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures: Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Avoid contact with eyes. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse. Avoid contact with skin.

9. Physical and chemical properties

Appearance

Physical state: liquid
Form: Spray Aerosol
Color: No data available.

Odor: No data available.

Odor threshold: No data available.

pH: No data available.

Melting point/freezing point: No data available.

Initial boiling point and boiling range: Estimated 71 °C

Flash Point: Not applicable

Evaporation rate: No data available.

Flammability (solid, gas): No data available.

Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%): No data available.

Flammability limit - lower (%): No data available.

Explosive limit - upper (%): No data available.

Explosive limit - lower (%): No data available.

Vapor pressure: 4,274 - 5,653 hPa (20 °C)

Vapor density: No data available.

Density: No data available.



Relative density:	No data available.
Solubility(ies)	
Solubility in water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Avoid heat or contamination.
Incompatible Materials:	No data available.
Hazardous Decomposition Products:	No data available.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product:	ATEmix: 31,266.28 mg/kg
Dermal Product:	ATEmix: 52,110.47 mg/kg



Inhalation

Product: ATEmix: 246.54 mg/l

Repeated dose toxicity

Product: No data available.

Specified substance(s):

Propane, 1-bromo- NOAEL (Rat(Female, Male), Inhalation): 5 mg/l Inhalation Experimental result, Supporting study
1-Propanol NOAEL (Rat(Female, Male), Inhalation): 8,000 mg/m3 Inhalation Experimental result, Key study
Oxirane, 2-ethyl- NOAEL (Mouse(Female, Male), Inhalation, 90 d): 150 ppm(m) Inhalation Experimental result, Weight of Evidence study

Skin Corrosion/Irritation

Product: No data available.

Specified substance(s):

1-Propanol in vivo (Rabbit): Not irritant Experimental result, Key study
Oxirane, 2-ethyl- estimated Irritating.
in vivo (Rabbit): Not irritant Experimental result, Key study

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Propane, 1-bromo- Rabbit, 1 - 7 d: Irritating

Respiratory or Skin Sensitization

Product: No data available.

Specified substance(s):

Propane, 1-bromo- Skin sensitization:, in vivo (Guinea pig): Non sensitising

Carcinogenicity

Product: No data available.

Specified substance(s):

Oxirane, 2-ethyl- Possible cancer hazard - may cause cancer based on animal data.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Propane, 1-bromo- Overall evaluation: 2B. Possibly carcinogenic to humans.

Oxirane, 2-ethyl- Overall evaluation: 2B. Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

Propane, 1-bromo- Reasonably Anticipated to be a Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.



Reproductive toxicity

Product: No data available.

Specified substance(s):

Propane, 1-bromo- May cause adverse reproductive effects - such as birth defects, miscarriages, or infertility based on animal data.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specified substance(s):

Propane, 1-bromo- Narcotic effect., Respiratory tract irritation. - Category 3 with narcotic effects. Category 3 with respiratory tract irritation.

2-Propanol, 2-methyl- Inhalation - dust and mist: Respiratory tract irritation. - Category 3 with respiratory tract irritation.

Oxirane, 2-ethyl- Narcotic effect. - Category 3 with narcotic effects.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Specified substance(s):

Propane, 1-bromo- Liver, Nervous System - Category 2

Target Organs

Specific Target Organ Toxicity - Single Exposure: Respiratory tract irritation., Narcotic effect.

Aspiration Hazard

Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Propane, 1-bromo- LC 50 (Fathead minnow (Pimephales promelas), 96 h): 67.3 mg/l Mortality

1-Propanol LC 50 (Pimephales promelas, 96 h): 4,555 mg/l Experimental result, Key study

2-Propanol, 2-methyl- LC 50 (Pimephales promelas, 96 h): > 961 mg/l Experimental result, Key study
NOAEL (Pimephales promelas, 96 h): 961 mg/l Experimental result, Key study

Oxirane, 2-ethyl- LC 50 (Leuciscus idus, 96 h): > 100 mg/l Experimental result, Key study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

1-Propanol EC 50 (Daphnia magna, 48 h): 3,644 mg/l Experimental result, Key study

2-Propanol, 2-methyl- NOAEL (Daphnia magna, 48 h): 180 mg/l Experimental result, Key study
EC 50 (Daphnia magna, 48 h): 933 mg/l Experimental result, Key study



Oxirane, 2-ethyl- EC 50 (Daphnia magna, 48 h): 70 mg/l Experimental result, Key study

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

2-Propanol, 2-methyl- NOAEL (Clarias gariepinus): 332 mg/l Experimental result, Key study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

1-Propanol EC 50 (Daphnia magna): > 100 mg/l Experimental result, Key study

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

Specified substance(s):

Propane, 1-bromo- 70 % Detected in water. QSAR, Key study

1-Propanol 81 % Detected in water. Experimental result, Key study

2-Propanol, 2-methyl- 2.6 - 5.1 % (29 d) Detected in water. Experimental result, Key study

Oxirane, 2-ethyl- 80 - 90 % Detected in water. Experimental result, Key study

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Specified substance(s):

1-Propanol Bioconcentration Factor (BCF): 0.88 Aquatic sediment Estimated by calculation, Supporting study

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments

Propane, 1-bromo- No data available.

Carbon dioxide No data available.

1-Propanol No data available.

2-Propanol, 2-methyl- No data available.

Oxirane, 2-ethyl- No data available.

Other adverse effects: Harmful to aquatic organisms.



13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated Packaging: No data available.

14. Transport information

DOT

UN Number: UN 1950
UN Proper Shipping Name: Aerosols, non-flammable
Transport Hazard Class(es)
Class: 2.2
Label(s): –
Packing Group: II
Marine Pollutant: No

Environmental Hazards: No
Marine Pollutant: No

Special precautions for user: Not regulated.

IMDG

UN Number: UN 1950
UN Proper Shipping Name: Aerosols, non-flammable
Transport Hazard Class(es)
Class: 2
Label(s): –
EmS No.: –
Packing Group: –

Environmental Hazards: No
Marine Pollutant: No

Special precautions for user: Not regulated.

IATA

UN Number: UN 1950
Proper Shipping Name: Aerosols, non-flammable
Transport Hazard Class(es)
Class: 2.2
Label(s): –
Packing Group: –

Environmental Hazards: No
Marine Pollutant: No

Special precautions for user: Not regulated.
Cargo aircraft only: Allowed.

15. Regulatory information

US Federal Regulations

Restrictions on use: Not known.



TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Propane, 1-bromo-	lbs. 100
1-Propanol	lbs. 100
2-Propanol, 2-methyl-	lbs. 100
Oxirane, 2-ethyl-	lbs. 100

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

- Immediate (Acute) Health Hazards
- Delayed (Chronic) Health Hazard
- Skin Corrosion/Irritation
- Serious Eye Damage/Eye Irritation
- Carcinogenicity
- Toxic to reproduction
- Specific Target Organ Toxicity - Single Exposure
- Specific Target Organ Toxicity - Repeated Exposure

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Propane, 1-bromo-	lbs. 100
1-Propanol	lbs. 100
2-Propanol, 2-methyl-	lbs. 100
Oxirane, 2-ethyl-	lbs. 100

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Propane, 1-bromo-	10000 lbs
Carbon dioxide	10000 lbs
1-Propanol	10000 lbs
2-Propanol, 2-methyl-	10000 lbs
Oxirane, 2-ethyl-	10000 lbs

SARA 313 (TRI Reporting)

<u>Chemical Identity</u>	<u>Reporting threshold for other users</u>	<u>Reporting threshold for manufacturing and processing</u>
Propane, 1-bromo-	lbs	lbs.
2-Propanol, 2-methyl-	lbs	lbs.
Oxirane, 2-ethyl-	lbs	lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

Propane, 1-bromo-	Male reproductive toxin. 03 2008
Propane, 1-bromo-	Female reproductive toxin. 03 2008
Propane, 1-bromo-	Developmental toxin. 03 2008
Propane, 1-bromo-	Carcinogenic. 07 2017



US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity

Propane, 1-bromo-
Carbon dioxide
1-Propanol
2-Propanol, 2-methyl-
Oxirane, 2-ethyl-

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity

Propane, 1-bromo-
Carbon dioxide
1-Propanol
2-Propanol, 2-methyl-
Oxirane, 2-ethyl-

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol



Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Ontario Inventory:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Mexico INSQ:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Philippines PICCS:	On or in compliance with the inventory
Taiwan Chemical Substance Inventory:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	Not in compliance with the inventory.

16. Other information, including date of preparation or last revision

Issue Date: 01/22/2020

Revision Information: No data available.

Version #: 1.0

Further Information: No data available.

Disclaimer: This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.