



MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Identification

1.1 Product identifiers

Product Name : 2-Bromo-2-methylpropionyl bromide
Cat No.: AC403090000; AC403090050; AC403091000; AC403095000
CAS No. : 20769-85-1

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended uses : Laboratory chemicals
Uses advised against: Food, drug, pesticide or biocidal product use.

1.3 Details of the supplier of the safety data sheet

Company : Krishna Solvechem Limited.
B/503, Sahayog, S. V. Road,
Kandivali (West), Mumbai – 400067. India.
Telephone : +91-22-6123 0222
Email : exports@kscl.co.in

1.4 Emergency telephone number

Emergency Phone : +91-8657457330

SECTION 2: Hazards identification

2.1 Classification

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

Acute oral toxicity	(Category 4)
Skin Corrosion/Irritation	(Category 1 B)
Serious Eye Damage/Eye Irritation	(Category 1)
Skin sensitization	(Category 1)
Germ cell Mutagenicity	(Category 1 B)
Specific target organ toxicity (single exposure)	(Category 3)
Target Organs - Respiratory system.	

2.2 Label elements

Pictogram :



Signal word

Danger

Hazard statement (s)

Causes severe skin burns and eye damage
May cause an allergic skin reaction



**Precautionary
statement (s)
Prevention**

Harmful if swallowed
May cause respiratory irritation
May cause genetic defects

Obtain special instructions before use
Do not handle until all safety precautions have been read and Understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
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

Inhalation :

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 you feel unwell

IF ON SKIN (or hair):

If skin irritation occurs: Get medical advice/attention
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse

Eyes:

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

Ingestion

Rinse mouth. Do NOT induce vomiting

Storage:

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

Disposal:

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise
classified (HNOC)**

None identified



SECTION 3: Composition / information on ingredients

3.1

Component	CAS-No	Weight %
Propanoyl bromide, 2-bromo-2-methyl-	20769-85-1	98% Minimum

SECTION 4: First aid measures

4.1 Description of first aid measures

General Advice:	If symptoms persist, call a physician.
If inhalation :	If not breathing, give artificial respiration. Remove from exposure, lie down. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician immediately.
In case of skin contact :	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
In case of eye contact :	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Ingestion :	Do NOT induce vomiting. Clean mouth with water. Never give anything by mouth to an unconscious person. Call a physician immediately.

4.2 Most important symptoms and effects :

Causes burns by all exposure routes. May cause allergic skin reaction. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

4.3 Notes to Physician :

Treat symptomatically

SECTION 5: Firefighting effects

5.1 Extinguishing media

Suitable extinguishing media :	Water spray, carbon dioxide (CO ₂), dry chemical, alcohol-resistant foam.
Unsuitable Extinguishing Media: :	No information available
Flash Point :	No information available
Method :	No information available



Autoignition Temperature:	No information available
Explosion Limits:	
Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available
Specific Hazards Arising from the Chemical :	Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes.
Hazardous Combustion Products :	Carbon monoxide (CO). Carbon dioxide (CO ₂). Hydrogen halides

5.4 Protective Equipment and Precautions for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA:

Health	Flammability	Instability	Physical hazards
3	1	1	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

Should not be released into the environment.

6.3 Methods and materials for containment and cleaning up

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Handle under an inert atmosphere.



7.2 Conditions for safe storage

Corrosives area. Store under an inert atmosphere. Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Incompatible Materials. Bases. Strong oxidizing agents. Alcohols. Amines. Metals.

SECTION 8: Exposure controls/personal protection

8.1 Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

8.2 Exposure controls

Personal protective equipment -

Eye / Face protection

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 protection and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

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.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice..

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	Light yellow Liquid
b) Odour	No information available
c) Odour Threshold	No information available
d) pH	No information available
e) Melting point / freezing point	162 - 164 °C / 323.6 - 327.2 °F
f) Initial boiling point and	No information available



boiling range	
g) Flash point	No information available
h) Evaporation rate	No information available
i) Flammability (solid, gas)	Not applicable
j) Upper/lower flammability or explosive limits	No data available No data available
k) Vapour pressure	No information available
l) Vapour density	7.93
m) Specific Gravity	1.860
n) Solubility	Reacts with water
o) Partition coefficient: n octanol/water	No data available
p) Auto-ignition temperature	No information available
q) Decomposition temperature	No information available
r) Viscosity	No information available
s) Molecular formula	C4 H6 Br2 O
t) Molecular Weight	229.9

SECTION 10: Stability and Reactivity

10.1 Reactive Hazard :	None known, based on information available
10.2 Chemical stability :	Moisture sensitive
10.3 Possibility of hazardous reactions :	None under normal processing.
10.4 Conditions to avoid :	Exposure to air or water. Incompatible products.
10.5 Incompatible materials:	Strong oxidizing agents, Bases, Alcohols, Amines, Metals
10.6 Hazardous decomposition products :	Carbon monoxide (CO), Carbon dioxide (CO ₂), Hydrogen halides
10.7 Hazardous Polymerization	Hazardous polymerization does not occur



SECTION 11: Toxicological information

11.1

Information on toxicological effects

Acute toxicity:

Product Information:

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Propanoyl bromide, 2-bromo-2-methyl-	300-500 mg/kg (Rat)	>2000 mg/kg (Rat)	Not listed

Toxicologically Synergistic Products

No information available

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

Irritation :

Causes burns by all exposure routes

Sensitization:

May cause sensitization by skin contact

Carcinogenicity :

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Propanoyl bromide, 2-bromo-2-methyl-	207-69-85-1	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects:

May cause heritable genetic damage

Reproductive Effects:

No information available.

Developmental Effects :

No information available.

Teratogenicity:

No information available.

STOT - single exposure :

Respiratory system

STOT - repeated exposure:

None known

Aspiration hazard :

No information available.

Symptoms / effects, both acute and delayed:

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

Endocrine Disruptor Information :

No information available

Other Adverse Effects :

The toxicological properties have not been fully investigated.



SECTION 12: Ecological information

12.1

Ecotoxicity:

Do not empty into drains. Do not flush into surface water or sanitary sewer system. Reacts with water so no ecotoxicity data for the substance is available.

12.2 Persistence and degradability: Persistence is unlikely

**Bioaccumulation/
Accumulation** No information available

12.3 Mobility: Is not likely mobile in the environment. Will likely be mobile in the environment due to its volatility. Log pow : 1.516

SECTION 13: Disposal considerations

13.1 Waste treatment methods: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

14.1 UN number :

DOT : UN3265 TDG : UN3265
IATA : UN3265 IMDG : UN3265

14.2 UN proper shipping name

DOT : CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O. S.

TDG : Corrosive liquid, acidic, organic, n. o. s.

IATA : CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O. S.

IMDG : Corrosive liquid, acidic, organic, n. o. s.

14.3 Transport hazard class(es) DOT: 8 TDG: 8 IMDG: 3 IATA: 3

14.4 Packaging group: DOT: II TDG: II IMDG: II IATA: II

SECTION 15: Regulatory information

15.1 United states of America Inventory:

Component	CAS-No	TSCA	TSCA Inventory notification Active/Inactive	TSCA - EPA Regulatory Flags
Propanoyl bromide, 2-bromo-2-methyl-	20769-85-1	X	ACTIVE	-

Legend:



TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories:

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (ECL).

Component	CAS-No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Propanoyl bromide, 2-bromo-2-methyl-	20769-85-1	-	X	244-017-3	-	X	X	-	-	KE-03654

U.S. Federal Regulations

SARA 313

Not applicable

SARA 311/312 Hazard Categories

See section 2 for more information

CWA (Clean Water Act)

Not applicable

Clean Air Act

Not applicable

OSHA - Occupational Safety and Health Administration

Not applicable

CERCLA

Not applicable

California Proposition 65
chemicals.

This product does not contain any Proposition 65

15.2 U.S. State Right-to-Know Regulations:

Not applicable

U.S. Department of Transportation

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N



U.S. Department of Homeland Security - This product does not contain the any DHS Chemicals.

Other International Regulations

Mexico – Grade No information available

Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Propanoyl bromide, 2-bromo-2-methyl-	20769-85-1	Not applicable	Not applicable	Not applicable	Not applicable

Component	CAS No	Seveso III Directive (2012/18/EC) – Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) – Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Propanoyl bromide, 2-bromo-2-methyl-	20769-85-1	Not applicable	Not applicable	Not applicable	Not applicable

SECTION 16: Other information

16.1 Prepared By: Regulatory affairs
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Limited

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Revision Summary: This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 C F R 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

16.2 Disclaimer:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.