



MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Identification

1.1 Product identifiers

Product Name : DL-2-Bromopropionic acid
Cat No.: AC107350000; AC107350010; AC107350025; AC107352500
CAS No. : 598-72-1

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)

| | |
|--|----------------|
| Corrosive to metals | (Category 1) |
| Acute oral toxicity | (Category 4) |
| Serious Eye Damage/Eye Irritation | (Category 1) |
| Skin corrosion/Irritation | (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)

May be corrosive to metals



Precautionary statement (s)

Prevention

Harmful if swallowed
Causes severe skin burns
and eye damage
May cause respiratory
irritation

Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Do not eat, drink or smoke when using this product
Keep only in original container.

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 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

Ingestion

Rinse mouth. Do NOT induce vomiting

Spills

Absorb spillage to prevent material damage

Storage:

Store locked up Store in a well-ventilated place. Keep container tightly closed. Store in corrosive resistant polypropylene container with a resistant liner.



| | |
|--|--|
| Hazards not otherwise classified (HNOC) | <p>Disposal: Dispose of contents/container to an approved waste disposal plant</p> <p>None identified</p> |
|--|--|

SECTION 3: Composition / information on ingredients

3.1

| Component | CAS-No | Weight % |
|--------------------------|----------|----------|
| Propanoic acid, 2-bromo- | 598-72-1 | <=100 |

SECTION 4: First aid measures

4.1 Description of first aid measures

| | |
|--|--|
| If inhalation : | Remove to fresh air. 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-wayvalve or other proper respiratory medical device. Immediate medical attention is required. Ifnot breathing, give artificial respiration. |
| 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. Call a physician or poison control center immediately. |
| 4.2 Most important symptoms and effects : | Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus shouldbe investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation |
| 4.3 Notes to Physician : | Treat symptomatically |

SECTION 5: Firefighting effects

5.1 Extinguishing media

| | |
|--|--|
| Suitable extinguishing media | Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam. |
| Unsuitable Extinguishing Media: : | Alcohol foam |
| 5.2 Flash Point : | 100 °C / 212 °F |
| 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 : | Keep product and empty container away from heat and sources of ignition. |
| Hazardous Combustion Products : | Carbon monoxide (CO). Carbon dioxide (CO ₂). Hydrogen halides. Bromine |

| | | | | |
|---|--|---------------------|--------------------|-------------------------|
| 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. | | | |
| <u>NFPA:</u> | Health | Flammability | Instability | Physical hazards |
| | 3 | 1 | 0 | N/A |

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures**
Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Do not get in eyes, on skin, or on clothing.
- 6.2 Environmental precautions**
See section 12 for additional Ecological Information.
- 6.3 Methods and materials for containment and cleaning up**
Keep in suitable, closed containers for disposal. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

SECTION 7: Handling and storage

- 7.1 Precautions for safe handling**
Wear personal protective equipment/face protection. Use only under a chemical fume hood. Avoid contact with skin and eyes. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.



7.2 Conditions for safe storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area. Incompatible materials. Bases. Strong acids. Metals. Reducing agent.

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

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

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 | Low melting solid |
| b) Odour | Pungent |
| c) Odour Threshold | No information available |
| d) pH | Not applicable |
| e) Melting point / freezing point | No data available |
| f) Initial boiling point and | 203 °C / 397.4 °F @ 760 mmHg |



| | |
|--|--|
| boiling range | |
| g) Flash point | 100 °C / 212 °F |
| h) Evaporation rate | No information available |
| i) Flammability (solid, gas) | No information available |
| j) Upper/lower flammability or explosive limits | No data available No data available |
| k) Vapour pressure | 0.1 mmHg @ 25 °C |
| l) Vapour density | No information available |
| m) Specific Gravity | 1.650 |
| n) Solubility | No information available |
| 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 | C3 H5 Br O2 |
| t) Molecular Weight | 152.98 |

SECTION 10: Stability and Reactivity

| | |
|--|--|
| 10.1 Reactive Hazard : | None known, based on information available |
| 10.2 Chemical stability : | Stable under normal conditions. |
| 10.3 Possibility of hazardous reactions : | None under normal processing. |
| 10.4 Conditions to avoid : | Exposure to light. Incompatible products. |
| 10.5 Incompatible materials: | Bases, Strong acids, Metals, Reducing Agent |
| 10.6 Hazardous decomposition products : | Carbon monoxide (CO), Carbon dioxide (CO ₂), Hydrogen halides, Bromine |
| 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

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:

No information available

Carcinogenicity :

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

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|--------------------------|----------|------------|------------|------------|------------|------------|
| Propanoic acid, 2-bromo- | 598-72-1 | Not listed | Not listed | Not listed | Not listed | Not listed |

Mutagenic Effects:

No information available.

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

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. |
| 12.2 Persistence and degradability: | Soluble in water Persistence is unlikely based on information Available. |
| Bioaccumulation/ Accumulation | No information available |
| 12.3 Mobility: | Will likely be mobile in the environment due to its water solubility. |

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 : UN3261 | TDG : UN3261 | | | |
| IATA : UN3261 | IMDG/IMO : UN3261 | | | |
| 14.2 UN proper shipping name | | | | |
| DOT : | Corrosive solid, acidic, organic, n. o. s. | | | |
| TDG : | Corrosive solid, acidic, organic, n. o. s. | | | |
| IMDG : | Corrosive solid, acidic, organic, n. o. s. | | | |
| IATA : | Corrosive solid, acidic, organic, n. o. s. | | | |
| 14.3 Transport hazard class(es) | DOT: 8 | TDG: 8 | IMDG: 8 | IATA: 8 |
| 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 |
|--------------------------|----------|------|---|-----------------------------|
| Propanoic acid, 2-bromo- | 598-72-1 | 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 |
|--------------------------|----------|-----|------|-----------|-------|------|------|------|-------|------|
| Propanoic acid, 2-bromo- | 598-72-1 | - | X | 209-947-6 | X | X | X | X | X | - |

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 This product does not contain any Proposition 65 chemicals.

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

Authorization/Restrictions according to EU REACH Not applicable

| Component | CAS No | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|--------------------------|----------|---|---|---|
| Propanoic acid, 2-bromo- | 598-72-1 | - | - | - |

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) |
|--------------------------|----------|----------|------------------------------|---------------------------|--|
| Propanoic acid, 2-bromo- | 598-72-1 | Listed | 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) |
|--------------------------|----------|---|--|----------------------------|------------------------------------|
| Propanoic acid, 2-bromo- | 598-72-1 | Not applicable | Not applicable | Not applicable | Not applicable |

SECTION 16: Other information

16.1 Prepared By: Regulatory affairs
Krishna Solvechem Limited

Email: exports@kscl.co.in

Creation Date: 23-Mar-2012

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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.