

MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Identification

| 1.1 | Product identifiers | |
|-----|---------------------------------|--|
| | Product Name : | Acetyl bromide |
| | Cat No.: | AC159400000; AC159400050; AC159401000; AC159405000 |
| | CAS No. : | 506-96-7 |
| 1.2 | Relevant identified uses of the | ne 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 | er |
| | Emergency Phone : | +91-8657457330 |
| | SEC | FION 2: Hazards identification |
| 2.1 | <u>Classification</u> | |
| | | azardous by the 2012 OSHA Hazard Communication Standard |
| | Flammable liquids | (Category 4) |
| | Skin Corrosion/Irritation | (Category 1 B) |
| | Serious Eye Damage/Eye Irri | tation (Category 1) |
| 2.2 | Label elements Pictogram : | |
| | Signal word | Danger |

Hazard statement (s)

Combustible liquid



| | Causes severe skin burns |
|--------------------------------|---|
| | and eye damage |
| Precautionary statement (s) | |
| Prevention | |
| | 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 Keep away from heat/sparks/open flames/hot surfaces No smoking Response : Immediately call a POISON CENTER or doctor/physician 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): 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/attentior Ingestion : IF SWALLOWED: Rinse mouth. DO NOT induce vomiting Fire In case of fire: Use CO2, dry chemical, or foam for extinction Storage: Store in a well-ventilated place.Keep container tightly closed. Store locked up Disposal: Dispose of contents/container to an approved waste |



| | Hazards not otherwise classified (HNOC) | Reacts violently with water. Lac increases the flow of tears) | chrymator (substance which | | | |
|-----|---|--|--|--|--|--|
| | SECTION 3: Co | mposition / information on | ingredients | | | |
| 3.1 | | | Ū | | | |
| | Component | CAS-No | Weight % | | | |
| | Acetyl bromide | 506-96- | >95 | | | |
| | SE(| 7 CTION 4: First aid measures | | | | |
| 4.1 | Description of first aid measu | | | | | |
| | General Advice: | show this safety datasheet to th Immediate medical attention is | | | | |
| | If inhalation : | method if victim ingested or in artificial respiration with the aid | d of a pocket mask equipped with r respiratory medical device. Call | | | |
| | 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. Never unconscious person. Call aphys with water. | r give anything by mouth to an ician immediately. Clean mouth | | | |
| 4.2 | Most important symptomsInhalation of high vapor concentrations may cause symptomsand effects :like headache, dizziness, tiredness, nausea and vomiting.Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possibleperforation of stomach or esophagus should be investigated: Ingestion causes severe swelling,severe damage to the delicate tissue and danger of perforation | | | | | |
| 4.3 | Notes to Physician : | Treat symptomatically | | | | |
| | S | ECTION 5: Firefigh effects | | | | |
| 5.1 | Extinguishing media | | | | | |
| | Suitable extinguishing media Unsuitable Extinguishing Media | carbon dioxide (CO2), dry sand, o resistant foam. Water mist may containers. No information available | • | | | |
| 5.2 | Flash Point : Method : | 75 °C / 167 °F No information available | | | | |



| | Autoignition Temperature: Explosion Limits: | No information available | | | | | | |
|-----|---|--|--------------|-------------|----------|--|--|--|
| | Upper | No data available | | | | | | |
| | Lower | No data availat | ble | | | | | |
| | Sensitivity to Mechanical Impact | No information available No information available Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. Reacts violently with water. Combustible material. Containers may explode when heated. | | | | | | |
| | Sensitivity to Static Discharge | | | | | | | |
| | Specific Hazards Arising from the Chemical : | | | | | | | |
| | Hazardous Combustion Products : | Carbon monoxide (CO). Carbon dioxide (CO2). Hydrogen halides. Fumes. | | | | | | |
| 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. Thermal decomposition can lead to release of irritating gases and vapors. | | | | | | |
| | | Health | Flammability | Instability | Physical | | | |
| | | | | | hazards | | | |

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Remove all sources of ignition. Take precautionary measures against static discharges. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

6.2 Environmental precautions

Should not be released into the environment. 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. Remove all sources of ignition. Do not expose spill to water.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not ingest. If swallowed, then seek immediate medical assistance. Do not allow contact with water. Keep away from open flames, hot surfaces and sources of ignition.



7.2 Conditions for safe storage

Corrosives area. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from water or moist air. Keep away from heat, sparks and flame. Incompatible Materials. Strong oxidizing agents. Strong bases. Alcohols.

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

Tight sealing safety goggles. Face protection shield.

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 StandardEN 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 | Form: Liquid |
|-----------------------------------|-----------------------------|
| b) Odour | Pungent |
| c) Odour Threshold | No information available |
| d) pH | No information available |
| e) Melting point / freezing point | -96 °C / -140.8 °F |
| f) Initial boiling point and | 75 - 77 °C / 167 - 170.6 °F |



| | boiling range | | | | | | |
|------|--|---|--|--|--|--|--|
| | | 75 °C / 167 °F | | | | | |
| | g) Flash point | No information available | | | | | |
| | h) Evaporation rate | | | | | | |
| | i) Flammability (solid, gas) | Not applicable | | | | | |
| | j) Upper/lower flammability or | No data available No data available | | | | | |
| | explosive limits | | | | | | |
| | k) Vapour pressure | 133 mbar @ 20 °C | | | | | |
| | l) Vapour density | No information available | | | | | |
| | m) Specific Gravity | 1.660 | | | | | |
| | 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 | C2 H3 Br O | | | | | |
| | t) Molecular Weight | 122.95 | | | | | |
| | SECTI | ON 10: Stability and Reactivity | | | | | |
| 10.1 | Reactive Hazard : | Yes | | | | | |
| 10.2 | Chemical stability : | Stable under normal conditions. Moisture sensitive | | | | | |
| 10.3 | Possibility of hazardous reactions : | None under normal processing. Reacts violently with water. | | | | | |
| 10.4 | Conditions to avoid : | Keep away from open flames, hot surfaces and sources of ignition. Excess heat. Exposure to moist air or water. Incompatible products. | | | | | |
| 10.5 | Incompatible materials: | Strong oxidizing agents, Strong bases, Alcohols | | | | | |
| 10.6 | Hazardous decomposition products : | Carbon monoxide (CO), Carbon dioxide (CO2), Hydrogen halides, Fumes. | | | | | |
| 10.7 | Hazardous Polymerization | Hazardous polymerization does not occur | | | | | |
| | | | | | | | |



SECTION 11: Toxicological information

| 11. | | | t | | | | | | | |
|--------------|--|---------------|---------------|---------------------------|---|--------------|---------------|------|--|--|
| | ormation on toxic | cological eff | ects | | | | | | | |
| | <u>ite toxicity:</u> duct Information | | | No.ac | No acute toxicity information is available for this | | | | | |
| | duct | 1: | | NO at | ute toxicity init | | | IIS | | |
| 1. | nponent Informa | tion | | | | | | | | |
| | icologically Syne | | ucts | No ir | nformation avai | lable | | | | |
| | | - | | - | ic effects from | | ng-torm ovno | suro | | |
| | Delayed and h | | ITECIS as w | | ic enects nom | | | sure | | |
| Irritation : | | | | Caus | es severe burns | by all expos | ure routes | | | |
| | Sensitization: | | | | formation avail | able | | | | |
| | Carcinogenicit | : y : | | | able below indi ingredient as a (| | er each agenc | y ha | | |
| | Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |] | | |
| | Acetyl bromide | 506-96-7 | Not listed | Not listed | Not listed | Not listed | Not listed | | | |
| | | | | | | | | | | |
| | Mutagenic Eff | ects: | | No info | rmation availab | ole. | | | | |
| | Reproductive | Effects: | | No info | No information available. | | | | | |
| | Developmenta | al Effects : | | No info | No information available. | | | | | |
| | Teratogenicity | /: | | No info | No information available. | | | | | |
| | STOT - single e | exposure : | | None k | None known | | | | | |
| | STOT - repeate | ed exposure | : | None known | | | | | | |
| | Aspiration haz | zard : | | No information available. | | | | | | |
| | Symptoms / e | effects, both | acute and | | Inhalation of high vapor concentrations may cause | | | | | |
| | delayed: | | | | oms like headac | | | | | |
| | • | | | | e of gastric lava | • | | | | |
| | • | | | | ould be investig | • | on causesseve | ere | | |
| | • | - | | | d danger of per rmation availat | | | | | |
| | Endocrine Disi Other Adverse | - | | | cicological prope | - | ot been fully | | | |
| | | | | | | | | | | |



SECTION 12: Ecological information

| 12.1 | | |
|----------------|--|---|
| • | | Reacts with water so no ecotoxicity data for the substance is available |
| 12.2 | Persistence and degrad | dability: Persistence is unlikely based on information available |
| | Bioaccumulation/ Accumulation | No information available |
| 12.3 Mobility: | | Will likely be mobile in the environment due toits volatility. |
| | | |
| | | SECTION 13: Disposal considerations |
| 13.1 | Waste treatment metho chemical is classified as | ods: Chemical waste generators must determine whether a discarded |
| 13.1 | Waste treatment methor chemical is classified as regional, and national l | ods: Chemical waste generators must determine whether a discarded s a hazardous waste. Chemical waste generators must also consult local, |
| | Waste treatment methor chemical is classified as regional, and national l | ods: Chemical waste generators must determine whether a discarded s a hazardous waste. Chemical waste generators must also consult local, hazardous waste regulations to ensure complete and accurate |
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| | Waste treatment metho chemical is classified as regional, and national l classification. UN number : | ods: Chemical waste generators must determine whether a discarded s a hazardous waste. Chemical waste generators must also consult local, hazardous waste regulations to ensure complete and accurate SECTION 14: Transport information |
| 14.1 | Waste treatment metho chemical is classified as regional, and national l classification. UN number : DOT : UN1716 | ods: Chemical waste generators must determine whether a discarded s a hazardous waste. Chemical waste generators must also consult local, hazardous waste regulations to ensure complete and accurate SECTION 14: Transport information TDG : UN1716 IMDG : UN1716 |
| 14.1 | Waste treatment metho chemical is classified as regional, and national l classification. UN number : DOT : UN1716 IATA : UN1716 | ods: Chemical waste generators must determine whether a discarded s a hazardous waste. Chemical waste generators must also consult local, hazardous waste regulations to ensure complete and accurate SECTION 14: Transport information TDG : UN1716 IMDG : UN1716 |
| 14.1 | Waste treatment metho chemical is classified as regional, and national l classification. UN number : DOT : UN1716 IATA : UN1716 UN proper shipping nat | ods: Chemical waste generators must determine whether a discarded s a hazardous waste. Chemical waste generators must also consult local, hazardous waste regulations to ensure complete and accurate SECTION 14: Transport information TDG : UN1716 IMDG : UN1716 me |
| 14.1 | Waste treatment metho chemical is classified as regional, and national l classification. UN number : DOT : UN1716 IATA : UN1716 UN proper shipping nat DOT : | ods: Chemical waste generators must determine whether a discarded s a hazardous waste. Chemical waste generators must also consult local, hazardous waste regulations to ensure complete and accurate SECTION 14: Transport information TDG : UN1716 IMDG : UN1716 me ACETYL BROMIDE |

*SECTION 15: Regulatory information

TDG: 8

TDG: II

IMDG: 8

IMDG: II

DOT: 8

DOT: II

15.1 United states of America Inventory:

14.3 Transport hazard class(es)

14.4 Packaging group:

| Component | CAS-No | TSCA | TSCA Inventory notification Active/Inactive | TSCA - EPA Regulatory Flags |
|-----------|---------|------|---|--------------------------------|
| Acetyl | 506-96- | Х | ACTIVE | - |
| bromide | 7 | | | |

Legend:

IATA: 8

IATA: II



| X - Listed | | | | | | | | | | |
|----------------------|--|----------|---------------|--------------------------|----------|-----------|---------------------------|-----------|------------------------------|----------|
| '-' - Not Li | | e – | | | | | | | | |
| TSCA 12(I | b) - Notice: | s of Ex | port | Not ap | plicable | | | | | |
| Internatio | onal Inven | tories | | | | | | | | |
| | | | | CS/ELINCS/ | NLP). Ph | lippines | |). Japan | (ENCS). Au | ıstralia |
| • | ina (IECSC | • | • | ,, | ,, | 1-1 | (| // | // - | |
| | - | | | | | | | | | |
| Component | CAS-No | DSL | NDSL | EINECS | PICCS | ENCS | ISHL | AICS | IECSC | KECL |
| Acetyl | 506- | - | х | 208-061-7 | Х | Х | Х | x | X | 2002-3 |
| bromide | 96-7 | | | | | | | | | 2203 |
| | | | <u>.</u> | | | | | | | |
| U.S. Fede | ral Regula | tions | | | | | | | | |
| SARA 313 | | | | | | ot applie | | | | |
| | ./312 Haza | | egories | | S | ee sectio | on 2 for | more in | formation | |
| • | an Water | | | 01/4 0 | | | | | | - |
| Component | Substa | Hazard | lous | CWA - Repo Quantities | rtable | | CWA - Toxic Pollutants | | CWA - Priority Pollutants | |
| Acetyl | X | | | 5000 lb | | - | lanto | | onatanto | |
| bromide Clean Air | Act | | | | N | ot appli | cable | | | |
| | ccupationa | al Safet | tv and | | | ot appli | | | | |
| | Iministrati | | | | | 1- 1- | | | | |
| CERCLA | | | | | Т | his mate | erial, as | supplied | l, contains | one or |
| more sub | stances re | gulate | d as a ha | zardous su | bstance | under tl | he Com | prehensi | ve Enviror | nmental |
| I | Compensa | ation a | | ityAct (CEF | , , | CFR 30 | 2) | | | |
| Component | | | - | lazardous Su | bstances | | | CERCLA | A EHS RQs | |
| Acetyl bromide | | | | Qs 000 lb | | | - | | | |
| California | Propositi | on 65 | | | Т | nis prod | uct doe | s not coi | ntain any | |
| | • | | | | | | | nemicals | | |
| 15.2 U.S. State | Dight to K | /now/ E | logulatio | | | | | | | |
| 15.2 0.5. State | | | egulatic | /113. | | | | | | |
| Compone | ent | Mass | achusetts | New | , | Pennsylv | ania | Illinois | Rhode | |
| | | | | Jerse | | | | | Island | I |
| Acetyl Bromide | | Х | | | Х | | - | - | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| U.S. Dena | rtment of | Transn | ortation | | | | | | | |
| - | rtment of ⁻ e Quantity | - | ortation Y | 1 | | | | | | |
| Reportable | rtment of [•] e Quantity ne Pollutar | (RQ): | | 1 | | | | | | |



U.S. Department of Homeland -Security

This product contains the following DHS chemicals: **Legend** - STQs = Screening Threshold Quantities, APA = A placarded amount

<u>Other International Regulations</u> Mexico – Grade

Moderate risk, Grade 2

| INICAICO | Grade | IVIOU | crute risk, Gruue | 2 | |
|-------------------|------------------|---|---|----------------------------------|---|
| Safety, h | ealth and enviro | onmental regulation | ons/legislation sp | ecific for the sub | stance or mixtur |
| Component | CAS No | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
| Acetyl bromide | 506-96-7 | Not applicable | Not applicable | Not applicable | Not applicable |
| Component | CAS No | Seveso III Directive (2012/18/EC) - Qualifying | Seveso III Directive (2012/18/EC) - Qualifying | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |

| | | Qualifying Quantitiesfor Major Accident Notification | Qualifying Quantitiesfor Safety Report Requirements | | Waste) |
|-------------------|----------|---|--|----------------|----------------|
| Acetyl bromide | 506-96-7 | Not applicable | Not applicable | Not applicable | Not applicable |

SECTION 16: Other information

| 10.1 | Prepared By: | Regulatory affairs |
|------|-----------------------|---|
| | | Krishna Solvechem Ltd |
| | Email: | exports@kscl.co.in |
| | Creation Date: | 06-Nov-2010 |
| | Revision Date: | 24-Dec-2021 |
| | Print Date: | 24-Dec-2021 |
| | Revision Summary: | This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation unde 29 C FR 1910.1200 to align with the Globally Harmonized |
| | | System of Classification and Labeling of Chemicals (GHS). |

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.