

MATERIAL SAFETY DATA SHEET (MSDS)

| | SECTION 1: Identification | | | | |
|-----|---|---|--|--|--|
| 1.1 | Product identifiers | | | | |
| | Product Name : | 4-Bromophenol | | | |
| | Cat No.: | A14873 | | | |
| | CAS No. : | 106-41-2 | | | |
| 1.2 | Relevant identified uses of the | e substance or mixture and uses advised against | | | |
| | Recommended uses : | Laboratory chemicals | | | |
| | Uses advised against: | Food, drug, pesticide or biocidal product use. | | | |
| 1.3 | .3 Details of the supplier of the safety data sheet | | | | |
| | Company : | Krishna Solvechem Limited. | | | |
| | | B/503, Shayog, S. V. Road, | | | |
| | | Kandivali (West), Mumbai – 400067. India. | | | |
| | Telephone : | +91-22-6123 0222 | | | |
| | Email : | exports@kscl.co.in | | | |
| 1.4 | Emergency telephone number | r | | | |
| | Emergency Phone : | +91-8657457330 | | | |
| | | | | | |

SECTION 2: Hazards identification

2.1 <u>Classification</u>

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 2) | |
| Serious Eye Damage/Eye Irritation | (Category 2) | |
| Specific target organ toxicity (single exposure) | (Category 3) | |
| Target Organs - Respiratory system. | | |

2.2 Label elements

Pictogram :



Signal word Hazard statement (s) warning Harmful if swallowed



| | Causes skin irritation |
|---------------|---|
| | Causes serious eye irritation |
| | May cause respiratory irritation |
| Precautionary | |
| statement (s) | |
| Prevention | |
| | Wash face, hands and any exposed skin thoroughly after |
| | handling. Wear protective gloves (protective clothing (eve |
| | 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. |
| | , |
| | 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 |
| | F iles |
| | 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 |
| | IF SWALLOWED: Call a POISON CENTER or doctor/physician if |
| | you feel unwell. Rinse mouth. |
| | Storago: |
| | Storage: Store locked up Store in a well-ventilated place. |
| | Keep container tightly closed |
| | Reep container ability 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 % |
|------------------|----------|----------|
| Phenol, 4-bromo- | 106-41-2 | >95 |

SECTION 4: First aid measures

4.1 Description of first aid measures

| | Description of mist dia medist | | | | |
|---------|--|--|--|--|--|
| | General Advice: | If symptoms persist, call a physician. | | | |
| | If inhalation : | Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur. | | | |
| | 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 : | If symptoms persist, call a physician. Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur. Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur. None reasonably foreseeable | | | |
| | Ingestion : | | | | |
| 4.2 | Most important symptoms and effects : | None reasonably foreseeable | | | |
| 4.3 | 4.3 Notes to Physician : Treat symptomatically | | | | |

SECTION 5: Firefigh effects

| 5.1 | Extinguishing media | | | | |
|-----|--------------------------------------|--|--|--|--|
| | Suitable extinguishing media : | Water spray, carbon dioxide (CO2), dry chemical, alcohol- resistant foam. | | | |
| | Unsuitable Extinguishing Media: : | No information available | | | |
| 5.2 | Flash Point : Method : | No information available No information available | | | |



| | Autoignition Temperature: Explosion Limits: | No information available | | | | | |
|--|---|--|--|--|--------------------------------------|--|--|
| | 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 CombustionCarbon monoxide (CO). Carbon dioxideProducts : | | | | | | | |
| | | | | | | | |
| 5.4 | Protective Equipment and Precautions for Firefighters: | • | wear self-containe and, MSHA/NIOSH gear. | • • | • | | |
| 5.4 | | pressure-dem | and, MSHA/NIOSH | • • | • | | |
| 5.4 | Precautions for Firefighters: | pressure-dem full protective | and, MSHA/NIOSH gear. | l (approved or e | equivalent) and Physical | | |
| | Precautions for Firefighters: NFPA: SECTION | pressure-dema full protective Health 2 | and, MSHA/NIOSH gear. Flammability 1 al release meas | I (approved or e | equivalent) and Physical hazards | | |
| | Precautions for Firefighters: NFPA: SECTION Personal precautions, protect | pressure-dema full protective Health 2 N 6: Accidenta ive equipment | and, MSHA/NIOSH gear. Flammability 1 al release meas and emergency p | I (approved or e Instability 0 ures rocedures | equivalent) and Physical hazards N/A | | |
| | Precautions for Firefighters: NFPA: SECTION | pressure-dema full protective Health 2 N 6: Accidenta ive equipment Jse personal pro | and, MSHA/NIOSH gear. Flammability 1 al release meas and emergency protective equipmer | I (approved or e Instability 0 ures rocedures nt as required. R | equivalent) and Physical hazards N/A | | |
| 6.1 | Precautions for Firefighters: NFPA: SECTION Personal precautions, protect Ensure adequate ventilation. L | pressure-dema full protective Health 2 N 6: Accidenta ive equipment Jse personal pro | and, MSHA/NIOSH gear. Flammability 1 al release meas and emergency protective equipmer | I (approved or e Instability 0 ures rocedures nt as required. R | equivalent) and Physical hazards N/A | | |
| 6.1 | Precautions for Firefighters: NFPA: SECTION Personal precautions, protect Ensure adequate ventilation. Usources of ignition. Take precaution | pressure-dema full protective Health 2 N 6: Accidenta ive equipment Use personal pro utionary measu | and, MSHA/NIOSH gear. Flammability 1 al release meas and emergency protective equipmer ares against static | I (approved or e Instability 0 ures rocedures nt as required. R | equivalent) and Physical hazards N/A | | |
| 5.4 6.1 6.2 6.3 | Precautions for Firefighters: NFPA: SECTION Personal precautions, protect Ensure adequate ventilation. Use sources of ignition. Take precautions | pressure-dema full protective Health 2 N 6: Accidenta ive equipment Jse personal pro utionary measu e environment. | and, MSHA/NIOSH gear. Flammability 1 al release meas and emergency protective equipmer ares against static | I (approved or e Instability 0 ures rocedures nt as required. R | equivalent) and Physical hazards N/A | | |

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.



| 7.2 | Conditions for safe storage |
|-----|-----------------------------|
|-----|-----------------------------|

Keep container tightly closed in a dry, cool and well-ventilated place.

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

No protective equipment is needed under normal use conditions

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: solid, light red | | | |
|--------------------------------------|--|--|--|--|
| b) Odour | phenolic | | | |
| c) Odour Threshold | No information available | | | |
| d) pH | No information available | | | |
| e) Melting point / freezing point | 64 - 68 °C / 147.2 - 154.4 °F | | | |
| f) Initial boiling point and | 235 - 236 °C / 455 - 456.8 °F @ 760 mmHg | | | |



| boiling range | |
|--|---------------------------|
| g) Flash point | No information available |
| h) Evaporation rate | Not applicable |
| i) Flammability (solid, gas) | Not information available |
| j) Upper/lower | No data available |
| flammability or | No data available |
| explosive limits | |
| k) Vapour pressure | No information available |
| l) Vapour density | Not applicable |
| m) Specific Gravity | No information available |
| 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 | C6 H5 Br O |
| t) Molecular Weight | 173.01 |

SECTION 10: Stability and Reactivity

| 10.1 | D.1 Reactive Hazard : None known, based on information available | | | | |
|------|--|--|--|--|--|
| 10.2 | Stable under normal conditions. | | | | |
| 10.3 | Possibility of hazardous reactions : | None under normal processing. | | | |
| 10.4 | Conditions to avoid : | Excess heat. Exposure to light. Incompatible products. Avoid dust formation. | | | |
| 10.5 | Incompatible materials: | Strong oxidizing agents, Strong bases | | | |
| 10.6 | Hazardous decomposition products : | Carbon monoxide (CO), Carbon dioxide (CO2) | | | |
| 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 :

irritating to eyes, respiratory system and skin

Sensitization:

No information available

Carcinogenicity :

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

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|------------|---------|------------|--------|------------|------------|------------|
| Phenol, 4- | 106-41- | Not listed | Not | Not listed | Not listed | Not listed |
| bromo- | 2 | | 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: | No information available |
| Endocrine Disruptor Information : | No information available |
| Other Adverse Effects : | The toxicological properties have not been fully investigated. |
| | |



| | | SECTION | 12: Ecological in | formation | | |
|---|---|---|--|---|------------------------|--|
| 12.1 | | | | | | |
| Ecoto | oxicity: | 1 | 1 | 1 | 1 | |
| | ponent | Freshwater Algae | Fresh water Fish | Microtox | Water Flea | |
| Phen | ol, 4-bromo- | Not listed | Not listed | EC50 = 0.41 mg/L 5 min EC50 = 0.47 mg/L 30 min | C50: 5.59 mg/L 48h | |
| 12.2 | Persistence a | nd degradability: | Persistence is unlike | ly | | |
| | Bioaccumulat Accumulatior | | o information availab | ble | | |
| 12.3 | .3 Mobility: Will likely be mobile in the environment due to its water solubility. Log Pow: 2.59 | | | | | |
| | | SECTION | 13: Disposal cons | iderations | | |
| regional, and national hazardous waste regulations to ensure complete and accurate classification. SECTION 14: Transport information | | | | | | |
| | | SECTION | 14: Transport in | formation | | |
| 14.1 | UN number : | SECTION | 14: Transport in | formation | | |
| 14.1 | | | 14: Transport in | formation | | |
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| 14.2 | UN number : DOT: UN2811 IATA: UN2811 UN proper shi DOT : TDG : IMDG : IATA : Transport haz | TDG 1 IMI pping name TC To To To Zard class(es) DC Dup: DC | G: UN2811 DG: UN2811 DXIC SOLIDS, ORGAN xic solids, organic, n xic solids, organic, n xic solids, organic, n xic solids, organic, n DT: 6.1 TDG | IC, N.O.S. .o.s. .o.s. .o.s. : 6.1 IMDG: 6.1 : III IMDG: III | | |
| 14.2 14.3 14.4 | UN number : DOT: UN2811 IATA: UN2811 UN proper shi DOT : TDG : IMDG : IATA : Transport haz Packaging gro | TDG 1 IMI pping name TC To To To Zard class(es) DC Dup: DC | G: UN2811 DG: UN2811 DXIC SOLIDS, ORGAN xic solids, organic, n xic solids, organic, n xic solids, organic, n DT: 6.1 TDG DT: III TDG 15: Regulatory in | IC, N.O.S. .o.s. .o.s. .o.s. : 6.1 IMDG: 6.1 : III IMDG: III | | |
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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), Australia (AICS), China (IECSC), Korea (ECL).

| Component | CAS-No | DSL | NDSL | EINECS | PICCS | ENCS | AICS | IECSC | KECL |
|----------------------|--------------|-----|------|-----------|-------|------|------|-------|--------------|
| Phenol, 4- bromo- | 106-41- 2 | - | Х | 203-394-4 | Х | Х | х | Х | KE- 03700 |

U.S. Federal Regulations

| Not applicable |
|---|
| es See section 2 for more information |
| Not applicable |
| Not applicable |
| d Not applicable |
| Not applicable |
| This product does not contain any Proposition 65 chemicals. |
| ations: |
| |
| tion N N N |
| |



KSCL

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

Other International Regulations

Mexico – Grade

No information available

SECTION 16: Other information

| 16.1 Prepared By: | Regulatory affairs |
|-----------------------|--|
| | Krishna Solvechem Limited |
| Email: | exports@kscl.co.in |
| Creation Date: | 02-Sep-2012 |
| Revision Date: | 14-Feb-2023 |
| Print Date: | 14-Feb-2023 |
| Revision Summary: | This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 C FR 1910.1200 to align with the Globally Harmonized System ofClassification 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.