



MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Identification

1.1 Product identifiers

Product Name : 4-Bromoaniline
Cat No.: AC146280000; AC146280050; AC146280250; AC146281000;
AC146285000
CAS No. : 106-40-1

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 2)
Acute dermal toxicity	(Category 3)
Serious Eye Damage/Eye Irritation	(Category 2)
Specific target organ toxicity (repeated exposure)	(Category 2)
Target Organs - Blood, Hematopoietic system.	

2.2 Label elements

Pictogram :



Signal word

Danger

Hazard statement (s)

Harmful if swallowed or inhaled



**Precautionary
statement (s)**

Prevention

Causes skin irritation
Causes serious eye irritation
Toxic in contact with skin
May cause damage to organs through prolonged or repeated exposure

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

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:

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth

Storage:

Store locked up



	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 %
Benzenamine, 4-bromo-	106-40-1	>95

SECTION 4: First aid measures

4.1 Description of first aid measures

General Advice:	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
If inhalation :	Remove to fresh air. If not breathing, give artificial respiration. 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. Immediate medical attention is required.
In case of skin contact :	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
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 :	None reasonably foreseeable
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
5.2 Flash Point :	110 °C / 230 °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 :	Thermal decomposition can lead to release of irritating gases and vapors.
Hazardous Combustion Products :	Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide (CO2). 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.			
<u>NFPA:</u>	Health	Flammability	Instability	Physical hazards
	3	1	1	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. Avoid dust formation. 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. Do not flush into surface water or sanitary sewer system.
6.3 Methods and materials for containment and cleaning up	Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

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. Avoid dust formation. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). 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. Store under an inert atmosphere. Protect from direct sunlight. Incompatible Materials. Acids. Acid anhydrides. Acid chlorides. Chloroformates.

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

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	Grey solid
b) Odour	Strong
c) Odour Threshold	No information available
d) pH	3.7 – 4.0
e) Melting point / freezing point	60 - 64 °C / 140 - 147.2 °F
f) Initial boiling point and	230 - 250 °C / 446 - 482 °F



boiling range	
g) Flash point	110 °C / 230 °F
h) Evaporation rate	Not applicable
i) Flammability (solid, gas)	No information available
j) Upper/lower flammability or explosive limits	No data available No data available
k) Vapour pressure	0.23 mbar @ 25 °C
l) Vapour density	Not applicable
m) Specific Gravity	1.497
n) Solubility	No information available
o) Partition coefficient: n octanol/water	No data available
p) Auto-ignition temperature	No information available
q) Decomposition temperature	> 230°C.
r) Viscosity	Not applicable
s) Molecular formula	C6 H6 Br N
t) Molecular Weight	172.02

SECTION 10: Stability and Reactivity

10.1 Reactive Hazard :	None known, based on information available
10.2 Chemical stability :	Sensitivity to light. Air sensitive
10.3 Possibility of hazardous reactions :	None under normal processing.
10.4 Conditions to avoid :	Excess heat. Exposure to light. Incompatible products. Exposure to air.
10.5 Incompatible materials:	Acids, Acid anhydrides, Acid chlorides, Chloroformates
10.6 Hazardous decomposition products :	Nitrogen oxides (NO _x), 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
Benzenamine, 4-bromo-	LD50 = 456 mg/kg (Rat)	536 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 : Irritating to eyes and skin

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
Benzenamine, 4-bromo-	106-40-1	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 : None known

STOT - repeated exposure: Blood, Hematopoietic System

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 information

12.1

Ecotoxicity:

Contains a substance which is: Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Benzenamine, 4-bromo-	Not listed	LC50: = 47.5 mg/L, 96h flow-through (Pimephales promelas)	Not listed	Not listed

12.2 Persistence and degradability: Persistence is unlikely

Bioaccumulation/ Accumulation No information available

12.3 Mobility: Is not likely mobile in the environment due its low water solubility. Will likely be mobile in the environment due to its volatility. Log Pow: 2.32

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: UN2811 TDG: UN2811
IATA: UN2811 IMDG: UN2811

14.2 UN proper shipping name

DOT : Toxic solid, organic, n. o. s.
TDG: Toxic solid, organic, n. o. s.
IMDG : Toxic solid, organic, n. o. s.
IATA : TOXIC SOLID, ORGANIC, N. O. S.

14.3 Transport hazard class(es) DOT: 6.1 TDG: 6.1 IMDG: 6.1 IATA: 6.1

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

SECTION 15: Regulatory information

15.1 United states of America Inventory:

Component	CAS-No	TSCA	TSCA Inventory notification Active/Inactive	TSCA - EPA Regulatory Flags
1-Bromo-2-methylpropane	78-77-3	X	ACTIVE	-

Legend:



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

Component	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)
Benzenamine, 4-bromo-	-	Use restricted. See item 75. (see link for restriction details)	-

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)
Benzenamine, 4-bromo-	106-40-1	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)
Benzenamine, 4-bromo-	106-40-1	Not applicable	Not applicable	Not applicable	ot applicable

SECTION 16: Other information

16.1 Prepared By: Regulatory affairs
Krishna Solvechem
Limited

Email: exports@kscl.co.in

Creation Date: 23-Mar-2012

Revision Date: 24-Dec-2023

Print Date: 24-Dec-2023

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.