


DR. J. PHARMACHEM (INDIA)

MATERIAL SAFETY DATA SHEET

1	IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING	
1.1	Product identifiers	
	Product Name	Mucobromic acid
	CAS NO.	488-11-9
1.2	Relevant identified uses of the substance or mixture and uses advised against	
	Identified uses	Laboratory chemicals, Manufacture of substances
1.3	Details of the supplier of the safety data sheet	
	COMPANY	DR. J. PHARMACHEM (INDIA)
		722/AB/15 'NIRMAL' ,LAXMI PARK COLONY,
		NAVI PETH , PUNE- 411 030.INDIA
		Telephone : 020-24530071
		Fax : 020-24530110
2	HAZARDS IDENTIFICATION	
2.1	Classification of the substance or mixture	
	Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]	
	Skin corrosion (Category 1B)	
	Classification according to EU Directives 67/548/EEC or 1999/45/EC	
	Causes burns. Irritating to respiratory system.	
2.2	Label elements	
	Labelling according Regulation (EC) No 1272/2008 [CLP]	
	Pictogram	
	Signal word	Danger
	Hazard statement(s)	
	H314	Causes severe skin burns and eye damage.
	Precautionary statement(s)	
	P280 P305 + P351 + P338	Wear protective gloves/ protective clothing/ eye protection/ face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.



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	P310	Immediately call a POISON CENTER or doctor/physician.
	Supplemental Hazard Statements	none
According to European Directive 67/548/EEC as amended		
	Hazard symbol(s)	
	R-phrase(s)	
	R34 R37	Causes burns. Irritating to respiratory system.
	S-phrase(s)	
	S26 S36/37/39 S45	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
2.3	Other hazards	none
3	COMPOSITION/INFORMATION ON INGREDIENTS	
3.1	Substances	
	Synonyms	2,3-Dibromomalealdehydic acid
	Formula	C ₄ H ₂ Br ₂ O ₃
	Molecular Weight	257.86 g/mol
	Component	Concentration
	Mucobromic acid	Min 98%
	Other unknown impurities	Up to 2%
4	FIRST AID MEASURES	
4.1	Description of first aid measures	
	General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.
	If inhaled	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
	In case of skin contact	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.
	In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
	If swallowed	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
4.2	Most important symptoms and effects, both acute and delayed	
	Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract,	



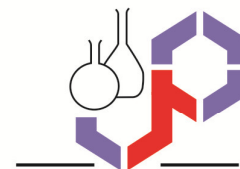
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	eyes, and skin., Cough, Shortness of breath, Headache, Nausea.
4.3	Indication of any immediate medical attention and special treatment needed
	No data available
5	FIREFIGHTING MEASURES
5.1	Extinguishing media
	Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
5.2	Special hazards arising from the substance or mixture Carbon oxides, Hydrogen bromide gas
5.3	Advice for firefighters Wear self contained breathing apparatus for firefighting if necessary.
5.4	Further information No data available
6	ACCIDENTAL RELEASE MEASURES
6.1	Personal precautions, protective equipment and emergency procedures
	Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
6.2	Environmental precautions
	Do not let product enter drains
6.3	Methods and materials for containment and cleaning up
	Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.
6.4	Reference to other sections
	For disposal see section 13.
7	HANDLING AND STORAGE
7.1	Precautions for safe handling
	Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.
7.2	Conditions for safe storage, including any incompatibilities
	Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
7.3	Specific end uses
	no data available
8	EXPOSURE CONTROLS/PERSONAL PROTECTION
8.1	Control parameters
	Components with workplace control parameters
8.2	Exposure controls
	Appropriate engineering controls
	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
	Personal protective equipment
	Eye/face protection
	Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
	Skin protection
	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.



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	The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.	
	Body Protection	
	Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace	
	Respiratory protection	
	Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).	
9	PHYSICAL AND CHEMICAL PROPERTIES	
9.1	Information on basic physical and chemical properties	
a)	Appearance	Form :Crystalline Colour : Beige
b)	Odour	no data available
c)	Odour Threshold	no data available
d)	pH	no data available
e)	Melting range/freezing range	120-124 °C
f)	Initial boiling point and boiling range	321.8°C at 760 mmHg
g)	Flash point	148.4 °C
h)	Enthalpy of Vaporization	61.968 kJ/mol
i)	Index of Refraction	1.625
j)	Molar Refractivity	37.539 cm ³
k)	Vapour pressure	no data available
l)	Density	2.43 g/cm ³
m)	Oxidizing properties	no data available
n)	Solubility	Methanol (0.1 g/ml)
o)	Partition coefficient: noctanol/water	no data available
p)	Polarizability	14.882 10-24cm ³
q)	Decomposition temperature	No data available
r)	Molar Volume	106.087 cm ³
s)	Surface Tension	69.06 dyne/cm
9.2	Other safety information	
	IUPAC Name	(Z)-2,3-dibromo-4-oxobut-2-enoic acid
	Molecular Formula	C ₄ H ₂ Br ₂ O ₃
	Molecular Weight	257.86 g/mol
	SMILES	Br/C(C=O)=C(\Br)C(=O)O
	InChI	InChI=1/C ₄ H ₂ Br ₂ O ₃ /c5-2(1-7)3(6)4(8)9/h1H,(H,8,9)/b3-2-
	EINECS	207-670-5
10	STABILITY AND REACTIVITY	
10.1	Reactivity	no data available
10.2	Chemical stability	no data available
10.3	Possibility of hazardous reactions	no data available
10.4	Conditions to avoid	no data available
10.5	Incompatible materials	Strong oxidizing agents
10.6	Hazardous decomposition products	Other decomposition products - no data



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		available
11	TOXICOLOGICAL INFORMATION	
11.1	Information on toxicological effects	
	Acute toxicity	no data available
	Skin corrosion/irritation	no data available
	Serious eye damage/eye irritation	no data available
	Respiratory or skin sensitization	no data available
	Germ cell mutagenicity	no data available
	Carcinogenicity	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
	Reproductive toxicity	no data available
	Specific target organ toxicity - single exposure	no data available
	Specific target organ toxicity - repeated exposure	no data available
	Aspiration hazard	no data available
	Potential health effects	
	Inhalation	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
	Ingestion	May be harmful if swallowed. Causes burns.
	Skin	May be harmful if absorbed through skin. Causes skin burns.
	Eyes	Causes eye burns.
	Signs and Symptoms of Exposure	
	Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea.	
	Additional Information	
	RTECS	Not available
12	ECOLOGICAL INFORMATION	
12.1	Toxicity	no data available
12.2	Persistence and degradability	no data available
12.3	Bioaccumulative potential	no data available
12.4	Mobility in soil	no data available
12.5	Results of PBT and vPvB assessment	no data available
12.6	Other adverse effects	no data available
13	DISPOSAL CONSIDERATIONS	
13.1	Waste treatment methods	
	Product	
	Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.	
	Contaminated packaging	
	Dispose of as unused product.	
14	TRANSPORT INFORMATION	



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14.1	UN number		
	ADR/RID	IMDG	IATA
	3261	3261	3261
14.2	UN proper shipping name		
	ADR/RID	IMDG	IATA
	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (Mucobromic acid)	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (Mucobromic acid)	Corrosive solid, acidic, organic, n.o.s. (Mucobromic acid)
14.3	Transport hazard class(es)		
	ADR/RID	IMDG	IATA
	8	8	8
14.4	Packaging group		
	ADR/RID	IMDG	IATA
	II	II	II
14.5	Environmental hazards		
	ADR/RID	IMDG Marine pollutant	IATA
	no	no	no
14.6	Special precautions for user		
	no data available		
15	REGULATORY INFORMATION		
	This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.		
15.1	Safety, health and environmental regulations/legislation specific for the substance or mixture		
	no data available		
15.2	Chemical Safety Assessment		
	no data available		
16	OTHER INFORMATION		
	Further information		
	<p>The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Dr J Pharmachem (India) and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.jpharmachem.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.</p> <p>Month of creation :- November 2013 Month of revision :- November 2016</p>		