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MATERIAL SAFETY DATA SHEET

n-BUTYLAMINE

Extra Pure

MSDS CAS: - 109-73-9

Section 1: Chemical Product and Company Identification

Section 1: Chemical Product

Product Name: n-BUTYLAMINE

CAS#: - 109-73-9

C.I. No.: Not available.

Synonym: 1-Butanamine

Chemical Name: 1-Aminobutane

Chemical Formula: CH₃(CH₂)₃NH₂

Brand: OXFORD

Details Of The Supplier Of The Safety Data Sheet:

Company identification: OXFORD LAB FINE CHEM LLP
Unit. No. 12, 1st Floor, Neminath Industrial Estate No. 6,
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Mumbai, Maharashtra, INDIA.
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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
n-BUTYLAMINE	109-73-9	100

Section 3: Hazards Identification

Potential Acute Health Effects:

Very hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion. Hazardous in case of inhalation. Corrosive to skin and eyes on contact. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:

Very hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion. Hazardous in case of inhalation. **CARCINOGENIC EFFECTS:** Not available. **MUTAGENIC EFFECTS:** Not available. **TERATOGENIC EFFECTS:** Not available. **DEVELOPMENTAL TOXICITY:** Not available. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs. Repeated or prolonged inhalation of vapors may lead to chronic respiratory irritation.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention immediately. Finish by rinsing thoroughly with running water to avoid a possible infection.

Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation: Not available.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Section 4: First Aid Measures (Continued)

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 312°C (593.6°F)

Flash Points: CLOSED CUP: -14°C (6.8°F). OPEN CUP: 1.1°C (34°F) (Cleveland).

Flammable Limits: LOWER: 1.7% UPPER: 9.8%

Products of Combustion: These products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂...).

Fire Hazards in Presence of Various Substances: Highly flammable in presence of open flames and sparks, of heat, of oxidizing materials.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. **Risks of explosion of the product in presence of static discharge:** Not available.

Fire Fighting Media and Instructions:

Flammable liquid, soluble or dispersed in water. **SMALL FIRE:** Use DRY chemical powder. **LARGE FIRE:** Use alcohol foam, water spray or fog.

Special Remarks on Fire Hazards:

Vapor may travel considerable distance to source of ignition and flash back. When heated to decomposition it emits toxic fumes.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Flammable liquid. Corrosive liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of acetic acid. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:

Keep locked up.. Keep container dry. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids.

Storage:

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

CEIL: 5 from ACGIH (TLV) [United States] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance	: Liquid. (Liquid.)
Odor	: Amine like.
Taste	: Not available.
Molecular Weight	: 73.14 g/mole
Color	: Colorless.
pH (1% soln/water)	: 13 [Basic.]
Boiling Point	: 77.1 (170.8°F)
Melting Point	: -49.1°C (-56.4°F)

Section 9: Physical and Chemical Properties (Continued)

Critical Temperature	: Not available.
Specific Gravity	: 0.74 (Water = 1)
Vapor Pressure	: 9.1 kPa (@ 20°C)
Vapor Density	: 2.5 (Air = 1)
Volatility	: Not available.
Odor Threshold	: 0.08 ppm
Water/Oil Dist. Coeff.	: Not available.
Ionicity (in Water)	: Not available.
Dispersion Properties:	See solubility in water, methanol, diethyl ether, acetone.
Solubility:	Easily soluble in cold water, hot water, methanol, diethyl ether, acetone.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances:
Reactive with oxidizing agents, acids. Slightly reactive to reactive with metals.

Corrosivity:
Highly corrosive in presence of aluminum, of copper. Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Incompatible with copper alloys.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:
WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 366 mg/kg [Rat.]. Acute dermal toxicity (LD50): 850 mg/kg [Rabbit.]. Acute toxicity of the vapor (LC50): 800 1 hours [Mouse].

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans:
Extremely hazardous in case of skin contact (corrosive), of eye contact (corrosive), of inhalation (lung corrosive). Very hazardous in case of skin contact (irritant, permeator), of ingestion.

Section 11: Toxicological Information (Continued)

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans:

Exposure can cause nausea, headache and vomiting. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

14.1. Land transport (ADR-RID)

Proper shipping name	: n-BUTYLAMINE
UN N°	: 1125
H.I. nr	: 338
ADR – Class	: 3
Labelling – Transport	: 3 : Flammable liquid. 8 : Corrosive substance.

Section 14: Transport Information (Continued)

14.2. Sea transport (IMDG) [English only]

Proper shipping name	: n-BUTYLAMINE
UN N°	: 1125
IMO-IMDG - Class or division	: 3 : Flammable liquid. (8 : Corrosive substance.)
IMO-IMDG - Packing group	: II

14.3. Air transport (ICAO-IATA) [English only]

Proper shipping name	: n-BUTYLAMINE
UN N°	: 1125
IATA - Class or division	: 3 : Flammable liquid. (8 : Corrosive substance.)
IATA - Packing group	: II

Section 15: Other Regulatory Information

Federal and State Regulations:

Pennsylvania RTK: n-Butylamine Massachusetts RTK: n-Butylamine TSCA 8(b) inventory: n-Butylamine CERCLA: Hazardous substances.: n-Butylamine

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada):

CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC):

R11- Highly flammable. R22- Harmful if swallowed. R35- Causes severe burns.

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 3

Reactivity: 0

Personal Protection:

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 3

Reactivity: 0

Section 15: Other Regulatory Information (Continued)

Specific hazard:

Protective Equipment:

Gloves. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Face shield.

Section 16 - Additional Information

References: Not available.

Other Special Considerations: Not available.

Disclaimer:

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