

MATERIAL SAFETY DATA SHEET

BUTYRALDEHYDE

(For Synthesis)

MSDS CAS: - 123-72-8

Section 1: Chemical Product and Company Identification

Section 1: Chemical Product

Product Name: BUTYRALDEHYDE

CAS#: - 123-72-8

C.I. No.: Not available.

Synonym: Ethyl Aldehyde

Chemical Name: Butyraldehyde

Chemical Formula: C4-H8-O

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,
Navghar, Vasai (East). Palghar - 401 210.**

Mumbai, Maharashtra, INDIA.

Tel: 91-250-2390989

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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
BUTYRALDEHYDE	123-72-8	100

Section 3: Hazards Identification

Potential Acute Health Effects:

Very hazardous in case of skin contact (irritant, permeator), of eye contact (irritant). Hazardous in case of inhalation (lung irritant). 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:

CARCINOGENIC EFFECTS: Classified 2B (Possible for human.) by IARC. **MUTAGENIC EFFECTS:** Classified None. For human. **TERATOGENIC EFFECTS:** Not available. **DEVELOPMENTAL TOXICITY:** Classified Reproductive system/toxin/ female, Reproductive system/toxin/male [None.]. The substance is toxic to blood, liver, mucous membranes, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

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. 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 medical attention.

Inhalation:

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

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 230°C (446°F)

Flash Points: CLOSED CUP: -6.68°C (20°F). OPEN CUP: -9.46°C (15°F).

Flammable Limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO₂).

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

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, insoluble in water. **SMALL FIRE:** Use DRY chemical powder. **LARGE FIRE:** Use water spray or fog.

Special Remarks on Fire Hazards:

Vapors produced during a fire are heavier than air and may travel considerable distance to a source of ignition and flash back. Fires are difficult to control due to ease of reignition.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill:

Flammable liquid, insoluble in water. 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. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. 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 away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. 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, reducing agents, acids, alkalis.

Section 7: Handling and Storage

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:

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

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:

TWA: 25 (ppm) from ACGIH (TLV) [United States] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance	: Liquid.
Odor	: Aldehyde like. (Strong.)
Taste	: Not available.
Molecular Weight	: 72.11 g/mole
Color	: Colorless.
pH (1% soln/water)	: Not applicable.
Boiling Point	: 74.8°C (166.6°F)
Melting Point	: -96.4 (-141.5°F)
Critical Temperature	: 251°C (483.8°F)
Specific Gravity	: Not available.
Vapor Pressure	: 12.3 kPa (@ 20°C)
Vapor Density	: 2.5 (Air = 1)
Volatility	: 99% (v/v).

Section 9: Physical and Chemical Properties (Continued)

Odor Threshold	: Not available.
Water/Oil Dist. Coeff.	: Not available.
Ionicity (in Water)	: Not available.
Dispersion Properties:	See solubility in water, methanol, diethyl ether, n-octanol, acetone.
Solubility:	
Soluble in methanol, diethyl ether, n-octanol, acetone. Insoluble in cold water.	

Section 10: Stability and Reactivity Data

Stability:	The product is stable.
Instability Temperature:	Not available.
Conditions of Instability:	Not available.
Incompatibility with various substances:	Highly reactive with oxidizing agents, reducing agents, acids, alkalis.
Corrosivity:	Non-corrosive in presence of glass.
Special Remarks on Reactivity:	
Oxidizers such as Perchlorates, Peroxides, Permanganates, Chlorates and Nitrates and Acids such as Hydrochloric, Sulfuric and Nitric	
Special Remarks on Corrosivity:	Not available.
Polymerization:	Yes.

Section 11: Toxicological Information

Routes of Entry:	Absorbed through skin. 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): 2490 mg/kg [Rat]. Acute dermal toxicity (LD50): 3560 mg/kg [Rabbit]. Acute toxicity of the vapor (LC50): 44610 mg/m 2 hours [Mouse]. 3	
Chronic Effects on Humans:	
CARCINOGENIC EFFECTS: Classified 2B (Possible for human.) by IARC. MUTAGENIC EFFECTS: Classified None. For human. DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Reproductive system/toxin/male [None.]. Causes damage to the following organs: blood, liver, mucous membranes, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.	
Other Toxic Effects on Humans:	
Very hazardous in case of skin contact (irritant, permeator). Hazardous in case of inhalation (lung irritant).	

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: Not available.

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 product itself and its products of degradation are not 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	: BUTYRALDEHYDE
UN N°	: 1129
H.I. nr	: 33
ADR - Class	: 3
Labelling - Transport	: 3 : Flammable liquid.

14.2. Sea transport (IMDG) [English only]

Proper shipping name	: BUTYRALDEHYDE
UN N°	: 1129
IMO-IMDG - Class or division	: 3 : Flammable liquid.
IMO-IMDG - Packing group	: II

Section 14: Transport Information (Continued)

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

Proper shipping name	: BUTYRALDEHYDE
UN N°	: 1129
IATA - Class or division	: 3 : Flammable liquid.
IATA - Packing group	: II

Section 15: Other Regulatory Information

Federal and State Regulations:

Pennsylvania RTK: Butyraldehyde Florida: Butyraldehyde Minnesota: Butyraldehyde Massachusetts RTK: Butyraldehyde New Jersey: Butyraldehyde TSCA 8(b) inventory: Butyraldehyde TSCA 8(a) PAIR: Butyraldehyde TSCA 8(d) H and S data reporting: Butyraldehyde: Unpublished

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).

DSCL (EEC):

R11- Highly flammable. R37/38- Irritating to respiratory system and skin. R40- Possible risks of irreversible effects. R41- Risk of serious damage to eyes.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 3

Reactivity: 0

Personal Protection: h

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

Health: 2

Flammability: 3

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16 - Additional Information

References: Not available.

Other Special Considerations: Not available.

Disclaimer:

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