

MATERIAL SAFETY DATA SHEET

Product Name: Pyridine

CAS No.: 110-86-1

Version: 1

1. Identification

Product Code : 90228, 90523,90728,90071
Company Name : Advent Chembio Private Limited
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2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
PYRIDINE	110-86-1	99- 100%

3. Hazards Identification**Hazard classification****Physical hazards**

Flammable liquids : Category 2

Health hazards

Acute toxicity (Oral) : Category 4

Acute toxicity (Dermal) : Category 4

Acute toxicity, inhalation, vapor : Category 4

Skin corrosion/irritation : Category 2

Serious eye damage/eye irritation : Category 1

Carcinogenicity : Category 2

Specific target organ toxicity -
single

exposure

Specific target organ toxicity –
repeated exposure : Category 1**Environmental hazards**Acute hazards to the aquatic
environment : Category 2Chronic hazards to the aquatic
environment : Category 2**Labels elements**

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Hazard symbol**Signal word****Hazard statement**

- : Danger
- : Highly flammable liquid and vapor.
Harmful if swallowed, in contact with skin or if inhaled.
Causes skin irritation.
Causes serious eye damage.
Suspected of causing cancer.
Causes damage to organs through prolonged or repeated exposure.
Toxic to aquatic life with long lasting effects.

Precautionary statement**Prevention**

- : Keep away from heat/sparks/open flames/hot surfaces. No smoking. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment.
Wear protective gloves/protective clothing/eye protection/face protection.
Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapors/spray. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid release to the environment.

Response

- : IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. In case of fire: Use water spray, foam, dry powder or carbon dioxide for extinction. IF ON SKIN: Wash with plenty of soap and water.

Other hazards which do not result in GHS classification

- : Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

4. First Aid Measures**General information**

- : Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance. Ensure that

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emergency personnel are aware of the material involved, and take precautions to protect themselves.

Ingestion

- : Rinse mouth thoroughly. Call a physician or poison control center immediately. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Inhalation

- : Move to fresh air. Get medical attention if symptoms persist. If breathing is difficult, give oxygen. If breathing stops, provide artificial respiration.

Skin contact

- : Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Eye contact

- : Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention immediately. In case of irritation from airborne exposure, move to fresh air. Get medical attention .

Most important symptoms/effects, acute and delayed

- : Irritating to eyes, respiratory system and skin. Mist or vapor extremely irritating to eyes and respiratory tract. Narcotic effect. Exposure to high vapor concentrations may cause headache, nausea, confusion, drowsiness, convulsions and coma.

Indication of immediate medical attention and special treatment needed

- : Treat symptomatically. Symptoms may be delayed.

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5. Fire fighting measures

General fire hazards : Highly flammable liquid and vapour. Can be ignited easily and burns vigorously. In case of fire and/or explosion do not breathe fumes.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media : Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards arising from the chemical : Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations. Heat may cause the containers to explode.

Special protective equipment and precautions for firefighters

Special fire fighting procedures : Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out. Water may be ineffective in fighting the fire. Fight fire from a protected location.

Special protective equipment for fire-fighters : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment. Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up : Eliminate all ignition sources if safe to do so. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures : Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

Environmental precautions : Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

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7. Handling and Storage

- Precautions for safe handling** : DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with skin. Avoid contact with eyes. Take precautionary measures against static discharges. Use personal protective equipment as required. Do not breathe mist or vapor. Do not taste or swallow. Use only with adequate ventilation. Wash hands thoroughly after handling.
- Conditions for safe storage, including any incompatibilities** : Keep away from food, drink and animal feeding stuffs. Prolonged contact with air may cause formation of explosive peroxides. Nitrogen blanketing of containers is recommended. Keep container tightly closed in a cool, well-ventilated place. Ground container and transfer equipment to eliminate static electric sparks. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

8. Exposure Controls Personal Protection

Control parameters

Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
PYRIDINE	TWA	1 ppm	US. ACGIH Threshold Limit Values (2011)
	REL	5 ppm 15 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	5 ppm 15 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	5 ppm 15 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

Appropriate engineering : No data available.

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controls**Individual protection measures, such as personal protective equipment**

- General information** : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.
- Eye/face protection** : Wear safety glasses with side shields (or goggles) and a face shield.
- Hand protection** : Chemical resistant gloves.
- Other** : Wear suitable protective clothing.
- Respiratory protection** : In case of inadequate ventilation use suitable respirator. Chemical respirator with organic vapor cartridge and full facepiece.
- Hygiene measures** : Provide eyewash station and safety shower. Observe good industrial hygiene practices. Do not eat, drink or smoke when using the product. Wash hands before breaks and immediately after handling the product. Do not get in eyes. Avoid contact with skin. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse.

9. Physical and Chemical Properties

- Appearance** : Liquid Colorless to yellow.
- Odor** : Fish-like odor.
- pH** : 8.5 (0.2 molar aqueous solution)
- Melting point/freezing point** : -41.6 °C
- Initial boiling point and boiling range** : 115 °C
- Flash Point** : 20 °C
- Vapor pressure** : 2.8 kPa (25 °C)
- Vapor density** : 0.982 AIR=1
- Relative density** : 0.98 (20 °C)
- Solubility in water** : Miscible with water.
- Solubility (other)** : No data available.
- Formula** : C₅H₅N
- Molecular Weight** : 79.1 g/mol

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10. Stability and Reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use .
Chemical stability	:	Material is stable under normal conditions.
Possibility of hazardous reactions	:	Hazardous polymerization does not occur.
Conditions to avoid	:	Heat, sparks, flames. Contact with incompatible materials.
Incompatible materials	:	Strong oxidizing agents. Strong acids. May attack some plastics, rubber and coatings. Maleic Anhydride .
Hazardous decomposition products	:	Thermal decomposition may produce oxides of carbon and nitrogen .

11. Toxicological Information**Information on likely routes of exposure**

Ingestion	:	Harmful if swallowed.
Inhalation	:	Harmful if inhaled. Irritating to respiratory tract.
Skin contact	:	Harmful in contact with skin. Causes skin irritation.
Eye contact	:	Causes serious eye damage.

Information on toxicological effects**Acute toxicity (list all possible routes of exposure)**

Oral Product	:	LD 50 (Rat): 891 mg/kg
Dermal Product	:	LD 50 (Rabbit): 1,121 mg/kg
Inhalation Product	:	LC 50 (Rat, 4 h): 4,000 mg/l .
Repeated dose toxicity Product	:	No data available.
Skin corrosion/irritation Product	:	Causes skin irritation.
Serious eye damage/eye irritation Product	:	Causes serious eye irritation.
Respiratory or skin sensitization Product	:	Not a skin sensitizer.
Carcinogenicity Product	:	Suspected of causing cancer.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans DIOXANE	:	No carcinogenic components identified.
US. National Toxicology Program (NTP) Report on	:	No carcinogenic components identified.

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Carcinogens**DIOXANE****US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)** : No carcinogenic components identified.**Germ cell mutagenicity****In vitro Product** : No mutagenic components identified .**In vivo Product** : No mutagenic components identified .**Reproductive toxicity Product** : No components toxic to reproduction .**Specific target organ toxicity - single exposure Product** : Narcotic effect. Respiratory tract irritation .**Specific target organ toxicity - repeated exposure Product** : Liver. Kidneys.**Aspiration hazard Product** : Not classified**Other effects** : No data available.**12. Ecological Information****Ecotoxicity****Acute hazards to the aquatic environment :****Fish Product** : No data available .**Specified substance(s):** LC 50 (Pink salmon (*Oncorhynchus gorbuscha*), 96 h): 1.1 mg/l MortalityPYRIDINE LC 50 (Carp (*Cyprinus carpio*), 96 h): 26 mg/l MortalityLC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 63.4 - 73.6 mg/l Mortality**Aquatic invertebrates Product** : No data available.**Specified substance(s):** EC 50 (Brine shrimp (*Artemia salina*), 24 h): 431.2 - 555.4 mg/l IntoxicationPYRIDINE EC 50 (Water flea (*Daphnia magna*), 24 h): 495 mg/l IntoxicationLC 50 (Water flea (*Daphnia magna*), 48 h): 1,120 mg/l MortalityLC 50 (Opossum shrimp (*Americamysis bahia*), 96 h): 208.65 - 258.8 mg/l Mortality**Chronic hazards to the aquatic environment :****Fish Product** : No data available.**Aquatic invertebrates Product** : No data available.**Toxicity to Aquatic Plants** : No data available.**Product:****Persistence and degradability****Biodegradation Product** : The product is not readily biodegradable.**BOD/COD ratio Product** : No data available.

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Bioaccumulative potential**Bioconcentration factor (BCF)** : No data available on bioaccumulation.**Product****Partition coefficient n-octanol / water (log Kow) Product** : Log Kow: 0.65**Mobility in soil** : The product is water soluble and may spread in water systems.**Other adverse effects** : Toxic to aquatic life with long lasting effects.**13. Disposal consideration****Disposal instructions** : Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal**Contaminated packaging** : Since emptied containers retain product residue, follow label warnings even after container is emptied. Residual vapors may explode on ignition; do not cut, drill, grind, or weld on or near this container**14. Transport Information**

	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
DOT	UN 1282	Pyridine	3	II	No
IMDG	UN 1282	Pyridine	3	II	No
IATA	UN 1282	Pyridine	3	II	No

15. Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

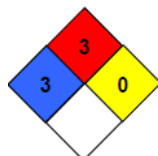
Safety, health and environmental regulations/legislation specific for the substance or mixture
No Data Available.

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16. Other Information**NFPA Hazard ID**

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

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