

Pyridine hydrobromide

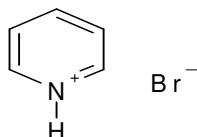
Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

PRODUCT NAME	: Pyridine hydrobromide
CAS RN	: 18820-82-1
EC#	: 242-600-7
SYNONYM	: Pyridine hydrobromide, Pyridinium bromide, Pyridiniummonobromide
SYSTEMATIC NAME	: Pyridine hydrobromide, Pyridinium bromide
MOLECULAR FORMULA	: C ₅ H ₅ N.HBr.
STRUCTURAL FORMULA	



1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Pyridine hydrobromide is used as an intermediate in the chemical industry for the manufacturing of active pharmaceutical ingredients like antibiotic, Cephalosporin.

Uses advised against: None

1.3. Details of the supplier of the safety data sheet

Jubilant Life Sciences India

FACTORY & REGISTERED OFFICE: Jubilant Life Sciences Ltd., Bhartiagram, Gajraula, District: Amroha, Uttar Pradesh-244223, India

HEAD OFFICE: Jubilant Life Sciences Ltd., Plot 1-A, Sector 16-A, Institutional Area, Noida, Uttar Pradesh, 201301 - India

T:FACTORY & REGISTERED OFFICE : T +91-5924-252353 to 252360 Contact Department-Safety: Ext. 7424**HEAD OFFICE:** T +91-120-4361000

support@jubl.com

1.4. Emergency telephone number

Emergency number : +91-9997022412; +91-9359674864

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin corrosion / irritant: Category 2

Serious eye damage/eye irritation: Category 2B

2.2. Label Elements

Hazard Pictogram:GHS 07

Signal Word:Warning!



HAZARD AND PRECAUTIONARY STATEMENTS:

HAZARD STATEMENTS

- H315: Causes skin irritation.
- H320: Causes eye irritation.

PRECAUTIONARY STATEMENTS

- P264: Wash hands thoroughly after handling.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P302+352: IF ON SKIN: Wash with plenty of soap and water.
- P332+313: If skin irritation occurs: Get medical advice/attention.
- P362: Take off contaminated clothing and wash before reuse.
- P305+351+338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
- P337+P313: If eye irritation persists: Get medical advice attention.
- P501: Dispose of contents/container to local/regional/national/international regulations.



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SECTION 3: Composition/information on ingredients

Chemical	CAS #	Purity	GHS-US classification
Pyridine hydrobromide	18820-82-1	≥99%	Skin corrosion / irritant: Category 2 Serious eye damage/eye irritation: Category 2B

SECTION 4: First aid measures

4.1. Description of first aid measures

Key symptoms

Acute effects

- Pyridine hydrobromide causes skin and eye irritation. Material may be irritating to the mucous membranes and upper respiratory tract.

Chronic effects:

- Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.

FIRST AID

- **Eyes:** If in eyes rinse cautiously with water for at least 15 minutes. Remove contact lenses if easy to do so. Continue rinsing. Seek medical attention.
- **Skin:** Immediately take off all contaminated clothing. Wash thoroughly with water for at least 15 minutes. Wash contaminated clothes before reuse. Seek immediate medical attention.
- **Inhalation:** Remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if you feel unwell.
- **Ingestion:** If swallowed call a poison center if you feel unwell. Rinse mouth. Do NOT induce vomiting by use of emetics. Seek medical attention.

SECTION 5 : FIRE-FIGHTING MEASURES

Extinguishing media

Appropriate extinguishing media: Dry chemical powder, carbon dioxide, and alcohol resistant foam. Water may also be used. Water can be effective in cooling down the fire-exposed containers and knocking down the vapours. Water jets may be used to flush spills away and dilute the same to non-flammable mixtures fog or alcohol-resistant foam by directing streams to the periphery of the fires to prevent spread.

Special Protective Equipment and Precautions for Fire Fighter

- Evacuate the area and fight fires from a safe distance.
- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions or as per locally valid procedures.
- Fire-fighters must wear Self Contained Breathing Apparatus (SCBA).
- Report any run-off of firewater's contaminated with this chemical as per local and federal procedures applicable.

Unusual fire and explosion hazard

- Toxic vapors may be released on thermal decomposition including nitrogen oxides, carbon monoxide and cyanide.
- High vapor concentration may result in an explosion hazard.
- Vapors are heavier than air. May travel considerable distance from source and flashback.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Minor Spills

- Clean up all spills immediately following relevant Standard Operating Procedures.
- Avoid breathing vapors and contact with skin and eyes.
- Shut off leak source if possible.
- Shut off all possible sources of ignition.
- Wear protective clothing, boots, impervious gloves and safety glasses.
- Wipe up.
- Decontaminate all equipment.

Major Spill

- Alert Emergency Responders and tell them location and nature of hazard.
- Shut off all possible sources of ignition and increase ventilation.
- Wear protective clothing, full boots, impervious gloves, safety glasses and Self Contained Breathing Apparatus (SCBA), as may be deemed appropriate.
- Clear area of personnel and move upwind.
- Stop leaks if possible.
- Prevent, by any means available, spillage from entering drains or water and watercourses.
- Collect recoverable product into labeled containers for recycling, recovery or disposal.
- Contain spill with sand, earth or vermiculite.
- Spread area with lime or absorbent material, and leave for at least 1 hour before washing.
- Clean up all tools and equipment.
- Inform authorities in event of contamination of any public sewers, drains or water bodies.



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SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

- Do not breathe vapor or mist.
- Wear protective gloves/clothing and eye/face protection.
- Wash thoroughly after handling.
- Ground and secure containers when dispensing or pouring product.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Launder contaminated clothing before re-use.
- If on skin or hair, IMMEDIATELY remove all contaminated clothing and rinse/shower with plenty of water.
- Use in a well ventilated place/Use protective clothing commensurate with exposure levels.

Storage

- Store in a cool, well ventilated place.
- Store away from incompatible materials.
- Keep container tightly closed.
- Keep securely closed when not in use.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Exposure Limits Values

Chemical name	ACGIH TLV	NIOSH	OSHS-FINAL PELs
Pyridine hydrobromide	None listed	None listed	None listed

Exposure Limits (International):

- Not available.

Exposure controls

Appropriate Engineering Controls:

- Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. Local ventilation is usually preferred. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protection:

- Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.
- **Hands:** Wear appropriate protective gloves to prevent skin exposure.
- **Eyes:** Safety goggles/ Chemical Safety glasses and Face shield.
- **Clothing:** Boots and clothing to prevent contact.
- **Respirator:** Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

For emergency situations, wear a positive pressure, pressure-demand, full face piece self-contained breathing apparatus (SCBA) or pressure-demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA-1998).

General Hygiene and general comments

- Wash hands and face after working with substance.
- Immediately change contaminated clothing.
- Apply skin protective barrier cream.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties.

Sr.No.	Parameter	Typical value
1.	Appearance	White to off white crystalline material.
2.	Odor	Characteristic smell.
3.	Odor Threshold	Not available
4.	pH	2.0-3.0
5.	Melting point/Freezing point	217-220°C
6.	Boiling Point	Not available
7.	Flash point	Not available



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8.	Evaporation rate (n-BuAc=1)	Not available
9.	Flammability	Not available
10.	Upper/lower flammability or Explosive limits	Not available
11.	Vapor pressure	Not available
12.	Vapor density (air=1)	Not available
13.	Relative density	0.94
14.	Solubility	Miscible in water
15.	Partition coefficient : n-(Octanol / water)	0.65
16.	Auto-ignition temperature	Not available
17.	Decomposition temperature	Not available
18.	Viscosity	Not available
19.	Explosive property	No
20.	Oxidizing property	No

SECTION 10: STABILITY AND REACTIVITY

- **Stability:** Stable under normal temperature and pressures.
- **Conditions to avoid:** Keep away from Humid conditions, heat, sparks, flame, high temperature and incompatible chemicals, dust generation, u.v. light, strong oxidants and strong reducing agents.
- **Incompatible chemicals:** Strong oxidizing agents and moisture.
- **Hazardous decomposition products:** Thermal decomposition may produce Hydrogen bromide carbon monoxide and oxides of nitrogen, carbon dioxide & nitrogen, Hydrogen bromide, hydrogen cyanide and irritating and toxic fumes.
- **Hazardous Polymerization:** Not reported.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

- **Acute toxicity**
- Pyridine hydrobromide causes skin and eye irritation. Material may be irritating to the mucous membranes and upper respiratory tract.

RTECS#: Not listed.

LD50/LC 50: Not available.

- Skin corrosion/irritation**
 - Causes skin irritation.
- Serious eye damage/irritation**
 - Causes eye irritation.
- Respiratory or skin sensitization**
 - No data is available.
- Germ cell Mutagenicity**
 - No data is available.
- Carcinogenicity**
 - Not listed by NTP, IARC and OSHA.
 - Not present on the EU CMR list.
 - According to information presently available the parent chemical i.e. Pyridine hydro bromide is not found to be carcinogenic to humans (IARC) & even not classified under EU CMR list.
- Reproductive toxicity**
 - No data is available.
- STOT-single exposure**
 - No data is available.
- STOT- repeated exposure**
 - No data available.
- Aspiration Hazards**
 - No data available.



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SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Ecotoxicity:

- Fish ChV= 210,000mg/l
- Pyridine, hydrobromide is not chronically toxic to fish. It is important to note that these results do not suggest that Pyridine, hydrobromide will not be toxic to all aquatic organisms. Some aquatic organisms, such as daphnids, may be more sensitive to both acute and chronic exposures to Pyridine, hydrobromide.

Persistence and degradability

- Pyridine, hydrobromide is expected to be found predominantly in soil and its persistence estimate is based on its transformation in this medium. Its half-life in soil, 30 days, does not exceed the EPA criteria. Therefore, Pyridine, hydrobromide is estimated not to be persistent in the environment..

Bio accumulative potential

- BCF = 3.162(Estimated)
- Log Kow = 0.65 (Estimated) Low potential to bio accumulate.

Pyridine, hydrobromide is not expected to bioaccumulate in the food chain because it does not exceed the BCF criteria. Also based on the Log Kow and Bio concentration factor value it is expected to have Non bio accumulative in fish and aquatic organisms and Negligible potential to bio accumulate.

Mobility in soil

- Log Koc= 1.519 (estimated). Low sorption.
- Henry's Law constant: 7.0×10^{-12} atm-m³/mole. Non- volatile from aqueous bodies.
- Log Kow = 0.65 (estimated). Low bioaccumulation is expected.

Other adverse effects

- **Environment Fate:**
- Based on the environmental modeling, this material has a low potential to persist in the environment, as it has low sorption properties and low potential to bio accumulate in the food chain. The material is not expected to be chronically toxic to fish. Since this is an estimated result, necessary guidelines should be followed before disposing off the material in to the environment.

SECTION 13: Disposal considerations

Waste treatment methods

- Burn in a chemical incinerator equipped with an afterburner and scrubber.
- Exert extra care in igniting, as this material is combustible.
- Dispose of this material in accordance with standard practice for disposal of potentially hazardous materials as required by applicable federal, state or local laws. Note that disposal regulations may also apply to empty containers and equipment rinsates.

SECTION 14: Transport information

- This substance is considered to be non hazardous for transport by Air/Rail/Road and Sea and thus. Not regulated by IATA/ICAO/ARD/RID/IMO/IMDG.

Environmental hazards:

- Marine pollutant: No.

SECTION 15: REGULATORY INFORMATION

European Union Information

Classification as per CLP Regulation 1272/2008:

- **Hazards Class and Category:** Skin Irrit Cat. 2
- **Hazard Statements:** H315

Chemical Inventory Lists:	Status
TSCA:	Present
EINECS:	242-600-7
Canada(DSL/NDSL):	Listed/NDSL
Japan:	Not listed
Korea:	KE 2994-1
Australia:	-----
China: IECSC	Not Listed

US Information:

OSHA Hazards

- Irritant

SARA 302 Components

- SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

- SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.



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SARA 311/312 Hazards

- Acute Health Hazard

Massachusetts Right to Know Components

- No components are subject to the Massachusetts Right to Know Act.

California Prop. 65 Components

- This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: OTHER INFORMATION

a) Compilation information of safety data sheet

Date of compilation	: September 09, 2013
Chemical	: Pyridine hydrobromide
CAS #	: 18820-82-1
File Name	: 0012Gj Ghs02 Div.3 sds Pyridine hydrobromide
Revision Number	: 02
Date of Issue	: December 31, 2015
Revision Due Date	: November, 2017
Supersedes date	: October 01, 2015

b) A key or legend to aberrations and acronyms used in the safety data sheet

- PBT = Persistent Bio accumulative and Toxic.
- vPvB= Very Persistent and Very Bio accumulative.
- SCBA= Self Contained Breathing Apparatus.
- NIOSH REL= National Institute for Occupational Safety and Health Recommended Exposure Limit. OSHA PEL=Occupational Safety and Health Administration Permissible Exposure Limit.
- OELTWA= Occupational Exposure Limit Time Weighted Averages.
- IDLH= Immediately Dangerous to Life or Health.
- UEL= Upper Explosive Limit.
- LEL= Lower Explosive Limit.
- RTECS= Registry of Toxic Effects of Chemical Substances.
- NTP=National Toxicology Program.
- SARA= Superfund Amendments and Reauthorization Act.
- NFPA= National Fire Protection Association.
- WHIMS= Workplace Hazardous Materials Information System.
- DSL/NDSL= Domestic/Non-Domestic Substances List.
- CSR=Chemical Safety Report.
- BCF = Bio Concentration Factor.
- DNEL = Derived No Effect Level.
- PNEC = Predicted No Effect Concentration.
- TLV = Threshold Limit Value.
- ACGIH = American Conference of Governmental Industrial Hygienists.
- REACH = Registration, Evaluation, Authorization and Restriction of Chemicals.
- CLP = Classification, Labeling and Packaging.
- LD / LC = Lethal Doses / Lethal Concentration.
- GHS = Globally Harmonized System.
- ADR = Accord europeen relative au transport international de marchandises.
- IMDG-Code = International Maritime Code for Dangerous Goods.
- EmS = Emergency measures on Sea.
- ICAO = International Civil Aviation Organization.
- IATA/DGR= International Air Transport Association/Dangerous Goods Regulation.

c) Key Literature reference and sources for data

Biographical reference and data sources

- CLP REG (regulation) (EC) no. 1272/2008, last modification by regulation (EC) no. 790/2009
- DIR 67/548/EWG, last modification by DIR 2009/2/EC
- REG (EC) no. 1907/2006, last modification by REG (EC) Nr. 453/2009

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

(End of Safety Data Sheet)