



4-Bromo-2,6-diaminopyridine

Safety Data Sheet

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

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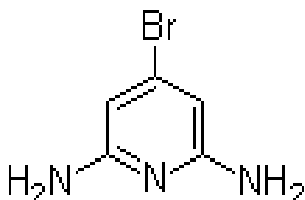
Safety Data Sheet

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

SECTION 1: Identification

1.1. Identification

PRODUCT NAME	: 4-Bromo-2,6-diaminopyridine
CAS RN	: 329974-09-6
EC#	: 676-169-5
SYNONYMS	: 4-Bromo-2,6-diaminopyridine; 4-Bromopyridine-2,6-diamine ; 2,6-Pyridinediamine,4-Bromo-
SYSTEMATIC NAME	: 2,6-Pyridinediamine,4-Bromo-
MOLECULAR FORMULA	: C ₅ H ₆ BrN ₃
STRUCTURAL FORMULA	



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

Used as an intermediate in the pharmaceutical industry and research and development..

1.3. Details of the supplier of the safety data sheet

Jubilant Ingrevia Limited

FACTORY & REGISTERED OFFICE: Jubilant Ingrevia Limited., Bhartiagram, Gajraula, District: Amroha, Uttar Pradesh-244223, India
T +91-5924-267437, +91-5924-267438

HEAD OFFICE: Jubilant Ingrevia Limited Plot 1-A, Sector 16-A, Institutional Area, Noida, Uttar Pradesh, 201301 - India
T +91-120-4361000 - F +91-120-4234881 / 84 / 85 / 87 / 95 / 96 support@jubl.com - www.jubilantingrevia.com

1.4. Emergency telephone number

For Chemical Emergency ONLY (in the case of fire, leak, spill, exposure or accident) Call
Chemtrec: 1-800-424-9300 (US), 1-703-527-3887 (Outside U.S.)
Chemtrec (India) : 000-800-100-7141

For ALL other emergencies call Emergency Control Room Gajraula at 99970 22412

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute toxicity, Oral (Category 4)	H302
Skin corrosion/ Irritation-Category 2	H315
Eye Damage / Irritation -Category 2B	H319
Specific target organ toxicity (Single exposure)-Category 3	H335

2.2. Label Elements

GHS US Labelling

Hazard Pictograms



GHS 07

Signal Word: *Warning!*

Hazard and precautionary statements:

Hazard Statements

- H302: Harmful if swallowed



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- H315: Cause skin irritation.
- H319: Causes serious eye irritation
- H335: May cause respiratory irritation

PRECAUTIONARY STATEMENTS

- P264: Wash hands thoroughly after handling.
- P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
- P270: Do not eat, drink or smoke when using this product.
- P280: Wear protective gloves, eye protection/ face protection.
- P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P302 + P352: IF ON SKIN: Wash plenty of soap and water.
- P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P330: Rinse mouth.
- P332 + P337 + P313: If skin irritation occurs/If eye irritation persists: Get medical advice/ attention.
- P362: Take off contaminated clothing and wash before reuse.
- P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P312: Call a POISON CENTER or doctor/physician if you feel unwell.
- P403 + P233: Store in a well-ventilated place. Keep container tightly closed
- P405: Store locked up.
- P501: Dispose of contents/ container in accordance with local/regional/national/international regulations.


2.3. Other hazards

- Substance is not classified as PBT nor as vPvB. For further details see section 12.

2.4. Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/information on ingredients

Substance	CAS No.	Purity	Hazard Classes and categories	Pictograms Signal Words	Hazard Statements
4-Bromo-2,6-Diaminopyridine	329974-09-6	>98%	Acute toxicity, Oral (Category 4) Skin corrosion/ Irritation-Category 2 Eye Damage / Irritation -Category 2B Specific target organ toxicity (Single exposure)-Category 3	GHS07 	H302 H315 H319 H335

SECTION 4: First aid measures

4.1. Description of first aid measures

- **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. Monitor for respiratory distress.
- **Ingestion:** If swallowed call a poison center if you feel unwell. Rinse mouth. Do NOT induce vomiting by use of emetics. Seek medical attention.

4.2. Most important symptoms and effects, both acute and delayed



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Acute effects:

- **Eyes:** Causes serious eye irritation. More than ordinary care should be used to prevent eye contact.
- **Skin** Causes skin irritation. More than ordinary care should be used to prevent skin.
- **Ingestion:** Harmful if swallowed. This material is considered to be harmful via the oral route.
- **Inhalation:** Although data on inhalation toxicity are unavailable, it may be assumed that this material may be harmful via inhalation.

Chronic effects:

- To the best of our knowledge the chronic exposure of this material have not been fully investigated.

4.3. Indication of any immediate medical attention and special treatment needed

- **Notes to Physician:** Treat symptomatically

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media.

- *Appropriate extinguishing media:* Carbon dioxide, dry chemical powder, foam. Suitable extinguishing media for the surrounding fire should be used..

5.2. Special hazards arising from the substance or mixture.

- Toxic vapors may be released on thermal decomposition including nitrogen oxides, carbon monoxide carbon di-oxide, Hydrogen bromide gas and irritating and toxic fumes.
- High vapor concentration may result in an explosion hazard.
- Vapors are heavier than air. May travel considerable distance from source and flashback.
- **Explosion Limits Upper:** No data available, **Lower:** No data available
- **Sensitivity to Mechanical Impact:** No information available
- **Sensitivity to Static Discharge:** No information available

5.3. Advice for firefighters

- 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.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures.

6.1.1 For non-emergency personnel

- Wear protective clothing, full boots, impervious gloves, safety glasses and Self Contained Breathing Apparatus (SCBA), as may be deemed appropriate.
- Avoid breathing vapors and contact with skin and eyes.
- Shut off leak source if possible.
- Shut off all possible sources of ignition.
- Wipe up.
- Decontaminate all equipment.

6.1.2 For emergency personnel

- Wear protective clothing, full boots, impervious gloves, safety glasses and Self Contained Breathing Apparatus (SCBA), as may be deemed appropriate.
- Alert Emergency Responders and tell them location and nature of hazard.
- Shut off all possible sources of ignition and increase ventilation.
- Stop leaks if possible.
- Take precautionary measures against static discharges
- Clean up all spills immediately following relevant Standard Operating Procedures.
- Avoid breathing vapors and contact with skin and eyes.

6.2. Environmental precautions.

- Clean up all spills immediately following relevant Standard Operating Procedures.
- Inform authorities in event of contamination of any public sewers, drains or water bodies.
- Wipe up.
- Prevent, by any means available, spillage from entering drains or water and watercourses.
- Collect recoverable product into labeled containers for recycling, recovery or disposal.

6.3. Methods and material for containment and cleaning up.

- Keep in suitable, closed containers for disposal.
- Remove all sources of ignition



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- Clean up all tools and equipment.
- Decontaminate all equipment.

6.4. Reference to other sections.

- For more information please refer to section 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

- Do not breathe dust, vapors or mist.
- Wear protective gloves/clothing and eye/face protection.
- Wash hands thoroughly after handling.
- 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.

7.2. Conditions for safe storage, including any incompatibilities

- Store at ambient temperature in a dry and well ventilated place.
- Store away from incompatible materials.
- Keep securely closed when not in use.
- Keep away from direct sunlight or heat sources.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

8.1.1 Exposure Limits Values

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
4-Bromo-2,6-diaminopyridine	Not available	Not available	Not available

8.1.2 Exposure Limits (International):

- Not available.

8.1.3 Derived No-Effect-Levels (DNEL) / Predicted No-effect-concentration (PNEC)

- DNEL and PNEC data not available.

8.2. Exposure controls

8.2.1 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.

8.2.2. 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.
The protective gloves to be used must comply with the specifications of EC directives 89/686/EEC and the resultant standard EN374.
- **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.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties.

Sr.No.	Parameter	Typical value
1.	Appearance	Off white to light yellow powder.
2.	Odor	Not available
3.	Odor Threshold	Not available
4.	pH	6.5-7.0



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5.	Melting point/Freezing point	122 -126 °C
6.	Boiling Point	352.7±37.0 °C(Predicted)
7.	Flash point	Not available
8.	Evaporation rate (n-BuAc=1)	Not available
9.	Flammability	Not available
10.	Upper/lower flammability or Explosive limits	Not available
11.	Vapor pressure	0.000286 mm Hg @ 25° C
12.	Vapor density (air=1)	Not available
13.	Specific gravity (water=1)	1.818±0.06 g/cm3(Predicted)
14.	Solubility	Slightly soluble in water
15.	Partition coefficient : n-(Octonol / water)	1.14(Estimated)
16.	Auto-ignition temperature	Not available
17.	Decomposition temperature	Not available
18.	Viscosity	Not available
19.	Explosive property	Not available
20.	Oxidizing property	Not available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

- None known, based on information available

10.2. Chemical stability

- Stable under normal temperature and pressure.

10.3. Possibility of hazardous reactions

- Hazardous Polymerization: Not reported.

10.4. Conditions to avoid

- Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.

10.5. Incompatible materials

- Strong oxidizing agents, Strong reducing agents

10.6. Hazardous decomposition products

- Thermal decomposition may produce carbon monoxide and oxides of nitrogen, carbon dioxide, Hydrogen bromide gas, and irritating and toxic fumes.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

a) **Acute toxicity**

LD50 Oral (Rat): 558.19 mg/kg (Predicted oral rat LD50 from consensus method)

b) **Skin corrosion/irritation**

- Causes skin irritation.

c) **Serious eye damage/irritation**

- Causes serious eye irritation.

d) **Respiratory or skin sensitization**

- No data is available.



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- e) **Germ cell Mutagenicity**
 - No data available.
- f) **Carcinogenicity**
 - Not listed by NTP, IARC.
 - Information pertaining to cause cancer in animals is unavailable.
- g) **Reproductive toxicity**
 - No data is available.
- h) **STOT-single exposure**
 - May cause respiratory irritation.
- i) **STOT- repeated exposure**
 - No data available.
- j) **Aspiration Hazards**
 - No data available.

Additional Information:

Symptoms / routes of exposure

- Skin contact: There may be irritation and redness at the site of contact.
- Eye contact: There may be irritation and redness. The eyes may water profusely.
- Ingestion: There may be soreness and redness of the mouth and throat.
- Inhalation: There may be irritation of the throat with a feeling of tightness in the chest. Exposure may cause coughing or wheezing

RTECS: Not available

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.1 Ecotoxicity:

- Fathead minnow LC50 (96 hr)- 144.04 mg/l (Predicted Fathead minnow LC50 from Consensus method)

12.2. Persistence and degradability

- Not readily biodegradable.

12.3. Bio accumulative potential

- BCF- 2.644
- Log Kow- 1.14
- Based on the Log Kow and Bio concentration factor value it is expected to have low potential to concentrate in fatty tissue of fish and aquatic organisms.

12.4. Mobility in soil (Estimated)

- Log Koc = 1.427 (estimated). Moderate Sorption .
- Henry's Law Constant = 3.51E-013 atm-m³/mole. It is volatile from aqueous bodies.
- Log Kow = 1.14 (estimated). Low potential to bio accumulate.

12.5. Results of PBT and vPvB assessment

- The substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII

12.6. Other adverse effects.

• Environment Fate:

- No appreciable bio-accumulation potential is to be expected. Not readily bio-degradable. Since this is an estimated result it is recommended that the material should not be disposed into the environment. The material should never be disposed into the sewage.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Disposal operations: Transfer to a suitable container and arrange for collection by specialised disposal company. MATERIAL SHOULD BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS

Disposal of packaging: Dispose of as special waste in compliance with local and national regulations Observe all federal, state and local environmental regulations.

SECTION 14: TRANSPORT INFORMATION

- This substance is considered to be hazardous for transport by Air/Rail/Road and Sea and thus regulated by IATA/ICAO/ARD/RID/IMO/IMDG.

S.No	Agency	UN Number	Proper Shipping name	Hazard Class	Packing Group
Land Transport	US DOT	--	Not Dangerous Goods	--	--
Maritime Transport	IMDG	--	Not Dangerous Goods	--	--
Air Transport	IATA	--	Not Dangerous Goods	--	--I



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Environmental hazards:

- Marine pollutant : No

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture.

Classification (as per Regulation (EC) No 1272/2008):

- **Hazards Class and Category:** Acute tox. Oral-Cat 4; Skin Corr- Cat 2; Eye irri. Cat. 2; STOT (Single exposure) Cat 3
- **Hazard Statements:** H302; H315; H319; H335

US information

<u>Chemical Inventory Lists:</u>	<u>Status</u>
TSCA:	Not listed
EC Inventory:	676-169-5
Canada(DSL/NDL):	Not Listed
Japan:	Not Listed
Korea:	Not Listed
Australia:	Not listed
China: IECSC	Not listed
New Zealand (NZIoC)	Not Listed
Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Not Listed

US information

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

4-Bromo-2,6-diaminopyridine is not listed

SARA 302/304 : 4-Bromo-2,6-diaminopyridine is not listed

SARA 311/312 : See section 2 for more information

California Prop. 65: 4-Bromo-2,6-diaminopyridine is not listed

CAA (Clean Air Act): 4-Bromo-2,6-diaminopyridine is not listed

CWA (Clean Water Act): 4-Bromo-2,6-diaminopyridine is not listed

EU Information

Water hazard class (WGK): WGK 3 (Severely hazardous to water)

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006: 4-Bromo-2,6-diaminopyridine is not listed

SECTION 16: OTHER INFORMATION

(a) Compilation information of safety data sheet

Chemical: 4-bromo-2,6-diaminopyridine

CAS #: 329974-09-6

File Name: 0205Gj Ghs05 Div.03 sds 4-Bromo-2,6-diaminopyridine

Revision Number: 05

Date of Issue of SDS: March 15, 2024

Revision Due Date: February 2027

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

- PBT =Persistent Bio accumulative and Toxic



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- 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
- IARC= International Agency for Research on Cancer
- EPA=Environmental Protection Agency
- TSCA= Toxic Substances Control Act
- CERCLA= Comprehensive Environmental Response, Compensation, and Liability Act
- 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
- Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 2020/878

Internet

- RTECS

(d) List of Risk Phrases, Hazard statements, safety Phrases and/or precautionary statements.

Hazards Statements	<ul style="list-style-type: none"> • H302: Harmful if swallowed. • H315: Causes skin irritation • H319: Causes serious eye irritation • H335: May cause respiratory irritation.
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Company's Declaration:

Information contained in this SDS is believed to be correct but no representation, guarantee or warranties of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. This SDS shall be used as a guide only. Jubilant Ingrevia Limited makes no warranties expressed or implied of the adequacy of this document for any particular purpose.

(End of Safety Data Sheet)