



## 2,6-Diaminopyridine

### Safety Data Sheet

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

SDS Code	: 0082Gj Ghs07 Div.3 sds 2,6-Diaminopyridine
Date of Compilation	: July 04, 2013
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## 2,6-Diaminopyridine

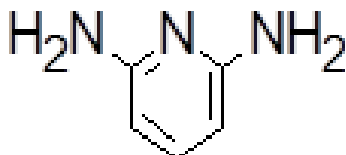
### Safety Data Sheet

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#### SECTION 1: Identification

##### 1.1. Identification

PRODUCT NAME	: 2,6-Diaminopyridine
CAS RN	: 141-86-6
EC#	: 205-507-2
SYNONYMS	: pyridine-2,6-diyldiamine;2,6-Pyridinediamine;2,6-diamino-pyridin;Pyridine, 2,6-diamino-; pyridine-2,6-diyldiamine
SYSTEMATIC NAME	: 2,6-Diaminopyridine
MOLECULAR FORMULA	: C <sub>5</sub> H <sub>7</sub> N <sub>3</sub>
STRUCTURAL FORMULA	



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

- 2, 6-Diaminopyridine is used in oxidative hair dye formulation.

##### 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](mailto:support@jubl.com) - [www.jubilantingrevia.com](http://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 CLASSIFICATION

Acute Toxicity oral: Category 3

Skin corrosion / irritant: Category 2

Serious eye damage/eye irritation: Category 2A

Specific target organ toxicity: Category 3

(After single exposure)

**Hazard Pictogram:** GHS 06, GHS 07

**Signal Word:** Danger!



###### HAZARD AND PRECAUTIONARY STATEMENTS:

###### HAZARD STATEMENTS

- H301 Toxic if swallowed.
- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H335: May cause respiratory irritation.

###### PRECAUTIONARY STATEMENTS

- P264: Wash hands thoroughly after handling.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P261: Avoid breathing dust/fume/gas/mist/vapours/spray.



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- P270: Do not eat, drink or smoke when using this product.
- P271: Use only outdoors or in a well-ventilated area.
- P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P330: Rinse mouth.
- 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.
- P304+340: 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+233: Store in a well ventilated place. Keep container tightly closed.
- P405: Store locked up
- P501: Dispose of contents/container to local/regional/national/international regulations.

#### SECTION 3 : Composition/information on ingredients

##### 3.1 Substances

Substance	CAS No.	Purity	GHS-US Classification
2,6-Diaminopyridine	141-86-6	~98%	<b>GHS-US classification</b> Acute Toxicity oral: Category 3 H301 Skin corrosion / irritant: Category 2 H315 Serious eye damage/eye irritation: Category 2A H319 Specific target organ toxicity: Category 3 H335 (After single exposure)

#### SECTION 4: FIRST AID MEASURES

##### 4.1. Description of first aid measures.

4.1.1 *Route of exposure:* Inhalation skin, eye and ingestion.

##### 4.1.2 *Advice*

- Rinse eyes cautiously with water for at least 15 minutes. Remove contact lenses if easy to do so. Continue rinsing. Seek medical attention.
- Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Call a POISON CENTER or doctor/physician if you feel unwell.

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

###### • **Acute effects:**

**Eyes:** Serious irritating to eyes.

**Skin:** Causes skin irritation.

**Ingestion:** Toxic if swallowed. Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause liver and kidney damage. May cause central nervous system effects and/or neurological effects.

**Inhalation:** May cause burns to the respiratory and gastrointestinal tract on inhalation or respiration. May cause liver and kidney damage. May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. May be harmful if inhaled.

###### • **Chronic effects:**

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

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

- **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. Apply artificial respiration if not breathing. Do not use mouth-to-mouth methods if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
- **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

##### 5.1. Extinguishing media.



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- *Appropriate extinguishing media:* Dry chemical powder, carbon dioxide, and alcohol resistant foam. Do not use water jet or fog (spray) to extinguish. 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.

#### 5.2. Special hazards arising from the substance or mixture.

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

#### 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).
- Chemical is water-soluble. 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.

- 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.
- 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.
- 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.
- Contain spill with sand, earth or vermiculite.
- Spread area with lime or absorbent material, and leave for at least 1 hour before washing.

#### 6.3. Methods and material for containment and cleaning up.

- 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 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.

#### 7.2. Conditions for safe storage, including any incompatibilities



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- Store at ambient temperature in dry and ventilated place.
- Keep dry & protected from direct sunlight.
- Store away from incompatible materials.
- Keep securely closed when not in use.

#### 7.3. Specific end use(s)

- 2,6-Diaminopyridine is used in oxidative hair dye formulation.

### SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

#### 8.1. Control parameters

##### 8.1.1 Exposure Limits Values

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
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.
- **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 Industrial hygiene:

- Immediately change contaminated clothing.
- Apply skin protective barrier cream.
- Wash hands and face after working with the substance.
- Under no circumstances eat or drink at the workplace.
- Do not inhale substances, work underhood.

### SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1. Information on basic physical and chemical properties.

Sr.No.	Parameter	Typical value
1.	Appearance	Off white-beige to brown crystalline solid
2.	Odor	Not available
3.	Odor Threshold	Not Available
4.	pH	7.4 to 7.8 (10% aq. Solution @20 °C)
5.	Melting point/Freezing point	117-122 °C
6.	Boiling Point	285 °C
7.	Flash point	155°C
8.	Evaporation rate (n-BuAc=1)	Not available



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9.	Flammability	Non flammable
10.	Upper/lower flammability or Explosive limits	Not available
11.	Vapor pressure	0.00288 mmHg at 25 °C
12.	Vapor density (air=1)	Not available
13.	Specific gravity (water=1)/Density	1.251g/cm <sup>3</sup>
14.	Solubility	Soluble in water(9.9g/100ml @ 20 °C), acetone, ethanol, methanol, isopropanol, ethyl acetate
15.	Partition coefficient : n-(Octanol / water)	0.25
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

##### Reactivity

- Not available.

##### Chemical stability

- Stable under normal temperature and pressures.

##### Possibility of hazardous reactions

- Hazardous Polymerization: Not reported.

##### Conditions to avoid

- Keep away from High temperature, moist condition, mechanical shock, incompatible materials, excess heat.

##### Incompatible materials

- Strong oxidizing agents.

##### Hazardous decomposition products

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

#### SECTION 11: TOXICOLOGICAL INFORMATION

##### a) Acute toxicity

- 2,6-Diaminopyridine is toxic if swallowed and is irritating to skin and respiratory system. It causes serious eye irritation. It is irritating to tissues of the mucous membranes and upper respiratory tract. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound

RTECS#: US7570000

LD 50(Oral): 140mg/Kg (Rat)

LD 50(Dermal): >2g/Kg(Rabbit)

LC 50(Inhalation): Not available

##### a) Skin corrosion/irritation

- Causes skin irritation.

##### b) Serious eye damage/irritation

- Causes serious eye irritation.

##### c) Respiratory or skin sensitization

- No data is available.

##### d) Germ cell Mutagenicity

Type of Test	Route of Exposure or Administration	Species/Test System	Dose Data	Reference
Mutation microorganisms	in	Bacteria Salmonella typhimurium	- 50 ug/plate	ESKHA5 Eisei Shikenjo Hokoku. Bulletin of the Institute of Hygienic Sciences. (Kokuritsu Eisei Shikenjo Kagaku, 18-1 Bushitsu Johobu, Setagaya-ku, Tokyo 158, Japan) V.1- 1886-Volume(issue)/page/year: (94),28,1976

Compound description: Mutagen.

##### e) Carcinogenicity



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- Not listed by NTP, IARC and OSHA.
  - Not present on the EU CMR list.
  - No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- f) **Reproductive toxicity**
- No data is available.
- g) **STOT-single exposure**
- May cause irritation to respiratory system.
- h) **STOT-repeated exposure**
- No data available.
- i) **Aspiration Hazards**
- No data available.

#### SECTION 12: ECOLOGICAL INFORMATION

##### 12.1 Toxicity

###### 12.1.1 Ecotoxicity:

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
2,6-Pyridinediamine	Not listed	Not listed	EC50 = 522 mg/L 15 min EC50 = 522 mg/L 30 min EC50 = 560 mg/L 5 min	Not listed

###### 12.2. Persistence and degradability

- Soluble in water Persistence is unlikely based on information available.

###### 12.3. Bioaccumulative potential

- BCF = 3.2 (Estimated)
- Log Kow = 0.25 (Estimated)

The estimated bio concentration factor (BCF) for 2,6-Diaminopyridine, 3.2, does not exceed the EPA bio concentration criteria, therefore as per estimation 2,6-Diaminopyridine is not expected to bio accumulate in the food chain because and it does not exceed the BCF criteria

###### 12.4. Mobility in soil (Estimated)

- Koc = 17 (Estimated) Low sorption.
- Henry's Law Constant = 0.000000000001 atm/m<sup>3</sup> mole at 25 degrees
- Log Kow = 0.25(Estimated )
- Will likely be mobile in the environment due to its water solubility

###### 12.6. Other adverse effects.

###### • Environment Fate:

Based on environmental modeling, it is estimated to be persistent in the environment and is expected to be found predominantly in soil. It is also expected to be found in water but not in sediment. It has low potential to bio accumulate and does not biodegrade readily. 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

- Burn in a chemical incinerator equipped with an after burner and scrubber.
- 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 Hazardous for transport by Air/Rail/Road and Sea and thus regulated by IATA/ ICAO/ US DOT/ TDG/ IMO/ IMDG.


S.No	Agency	UN Number	Proper Shipping name	Hazard Class	Packing Group
Land Transport	US DOT	UN 2671	Aminopyridines	6.1	III



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<b>Maritime Transport</b>	IMDG	UN 2671	Aminopyridines	6.1	III
<b>Air Transport</b>	IATA	UN 2671	Aminopyridines	6.1	III
<b>Hazard Label</b>	<b>Toxic</b>				

#### Environmental hazards:

- Marine pollutant: No

#### SECTION 15: REGULATORY INFORMATION

##### Classification as per CLP Regulation 1272/2008:

- **Hazards Class and Category:** Acute Tox.Oral Cat 3 ; Skin Irrit Cat. 2; Eye Irrit Cat 2; STOT SE Cat. 3
- **Hazard Statements:** H301;H315;H319; H335

Chemical Inventory Lists:	Status
<b>TSCA:</b>	Listed (Active)
<b>EINECS:</b>	205-507-2
<b>Canada(DSL/NDSL):</b>	Listed/NDSL
<b>Japan:</b>	5-726
<b>Korea:</b>	Not listed
<b>Australia:</b>	Listed
<b>China: IECSC</b>	Listed
<b>Taiwan</b>	Listed

#### US information

**CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):** 2,6-Diaminopyridine not listed

**SARA 302/304 :** 2,6-Diaminopyridine not listed

**SARA 311/312 :** See section 2 for more information

**California Prop. 65:** 2,6-Diaminopyridine not listed

**CAA (Clean Air Act):** 2,6-Diaminopyridine not listed

**CWA (Clean Water Act):** 2,6-Diaminopyridine not listed

#### EU Information

**Water hazard class (WGK)** No Information available.

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

#### SECTION 16: OTHER INFORMATION

##### Compilation information of safety data sheet

Date of Compilation : July 04, 2013  
Chemical : 2,6-Diaminopyridine  
CAS # : 141-86-6  
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##### A key or legend to aberrations and acronyms used in the safety data sheet;

- PBT =Persistent Bioaccumulative and Toxic.





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- vPvB= Very Persistent and Very Bioaccumulative.
- 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.
- NFPA= National Fire Protection Association.
- WHIMS= Workplace Hazardous Materials Information System.
- DSL/NDSL= Domestic/Non-Domestic Substances List.
- BCF = Bio Concentration Factor.
- DNEL = Derived No Effect Level.
- PNEC = Predicted No Effect Concentration.
- CLP = Classification, Labelling and Packaging.
- LD / LC = Lethal Doses / Lethal Concentration.
- GHS = Globally Harmonized System.
- 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.

#### Key Literature reference and sources for data

##### Biographical reference and data sources

- Globally Harmonized System of Classification and Labelling of Chemicals.
- CLP REG (regulation) (EC) no. 1272/2008, last modification by regulation (EC) no. 790/2009
- REG (EC) no. 1907/2006, last modification by REG (EC) Nr. 878/2020

#### 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)