



2-Amino-3-hydroxypyridine

Safety Data Sheet

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

Date of compilation : October 26, 2012

File Name : 0177Gj Ghs10 Div. 3 sds 2-Amino-3-hydroxypyridine

Revision Number : 10

Date Issue : February 19, 2024

Revision Due Date : January 2027

Supersedes date : January 02, 2024

Supersedes version : 0177Gj Ghs09 Div. 3 sds 2-Amino-3-hydroxypyridine

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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/ MIXTURE AND OF THE COMPANY/ UNDERTAKING

1.1. Identification

PRODUCT NAME	:	2-Amino-3-hydroxypyridine
CAS RN	:	16867-03-1
EC#	:	240-886-8
SYNONYMS	:	2-aminopyridin-3-ol; 2-Amino-3-pyridinol; 3-Hydroxy-2-pyridinamine;3-Pyridinol; 2- amino- (8Cl) (9Cl).
MOLECULAR FORMULA	:	C ₅ H ₆ N ₂ O
STRUCTURAL FORMULA	:	



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

1.2.1. Relevant identified uses

2-Amino-3-hydroxypyridine is used as a pharmaceutical intermediate and for research purpose. It is also used as precursor for hair colours. It reacts with primary intermediates to form the final dye-stuff. The reaction can be accelerated by the addition of an oxidizing agent (e.g. hydrogen peroxide), but can also be achieved by air oxidation

Uses advised against: None

1.3. Details of the supplier of the safety data sheet

Jubilant Ingrevia Limited

FACTORY 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 -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 3

Skin corrosion / irritation : Category 2

Serious eye damage/eye irritation - Category 2A

STOT-Single Exposure: Category 3

Specific target organ toxicity - repeated (STOT-RE): Category 2

Hazardous to the aquatic environment –Acute Hazard: Category 2

Hazardous to the aquatic environment-Chronic Hazard: Category 2

2.2. Label Elements

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Hazard Pictogram: Hazard Pictogram: GHS 06, GHS08, GHS09

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
- H373: May cause damage to organs through prolonged or repeated exposure
- H411: Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

- P264: Wash hands thoroughly after handling.
- P270: Do not eat, drink or smoke when using this product.
- P280: Wear protective gloves /protective clothing/eye protection/face protection.
- P260: Do not breathe dust/fume/gas/mist/vapors/spray.
- P271: Use only outdoors or in a well-ventilated area.
- P273: Avoid release to the environment.
- P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
- P330: Rinse mouth.
- P362: Take off contaminated clothing and wash before reuse.
- P302+P352: IF ON SKIN: Wash with plenty of soap and water
- P332+P313: If skin irritation occurs: Get medical advice/attention.
- P305+P351+P338: IF IN EYES: Rinse cautiously 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+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.
- P330: Rinse mouth.
- P362: Take off contaminated clothing and wash before reuse.
- P302+P352: IF ON SKIN: Wash with plenty of soap and water.
- P332+P313: If skin irritation occurs: Get medical advice/attention.
- P305+P351+P338: IF IN EYES: Rinse cautiously 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+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P391: Collect spillage.
- P405: Store locked up.
- P403+233: Store in a well, ventilated place keep container tightly closed.
- P501: Dispose of contents/container to local/regional/national/international regulations.

SECTION 3: COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical	CAS #	EC Number	% Composition	GHS-US classification
2-Amino-3-hydroxypyridine	16867-03-1	240-886-8	>98 %	Acute toxicity Oral: Category 3 Skin corrosion / irritation : Category 2 Serious eye damage/eye irritation - Category 2A STOT-Single Exposure: Category 3 Specific target organ toxicity - repeated (STOT-RE): Category 2 Hazardous to the aquatic environment –Acute Hazard: Category 2 Hazardous to the aquatic environment-Chronic Hazard: Category 2

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

- Remove affected person from danger area. Do not leave affected persons unsupervised. Seek medical treatment. First aid personnel should pay attention to their own safety. Take off all contaminated clothing immediately



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- **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.

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

Acute Toxicity

- Toxic if swallowed
- Causes skin ,eye irritation and May cause respiratory irritation.

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

- Consult the physician.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

- Water Spray, Dry chemical powder, carbon dioxide, and alcohol resistant foam. Water may also be used. Water sprays can be effective in cooling down the fire-exposed containers and knocking down the vapors. 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

- In case of fire and explosion it may produce hazardous vapors of nitrogen oxides, carbon monoxide and Carbon di-oxide
- High vapor concentration may result in an explosion hazard.

5.3. Advice for firefighters

- Wear full protective clothing; wear self-contained breathing apparatus (SCBA) in fire situations. Avoid unnecessary run-off of extinguishing media, which may cause pollution.

5.4. Further information

- No data available

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

- Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection.
- Avoid dust formation. Avoid breathing vapors, mist or gas.
- Keep away from sources of ignition and heat- No smoking.
- Avoid contact with skin and eyes.
- Wear protective clothing, boots, impervious gloves and safety glasses.
- Alert Emergency Responders and tell them location and nature of hazard.
- Shut off source of leak if safe to do so.

6.2. Environmental precautions

- Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release.
- 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 materials for containment and cleaning up

- Wipe up spillage or collect spillage using a high-efficiency vacuum cleaner. Avoid breathing dust.
- Place spillage in appropriately labeled container for disposal. Wash spill site.
- 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.

6.4. Reference to other sections

- For disposal see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

- Handle in accordance with good industrial hygiene and safety procedures. Avoid Prolonged or repeated exposure. Take precautionary measures against electrostatic discharge.



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- Material should be handled in a laboratory hood whenever against fire and explosion possible.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke
- Provide appropriate exhaust/ventilation at machinery

7.2 Conditions for safe storage, including any incompatibilities

- Store at ambient temperature in a dry and well ventilated place.
- Keep container closed when not in use.
- Store away from incompatible materials.
- Keep securely closed when not in use

7.3 Specific end use(s)

- Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

- **Exposure Limits Values**

Chemical name	STEL (ppm)	NIOSH	ACGIH	OSHA
2-Amino-3-hydroxypyridine	None listed	None listed	None listed	None listed

8.2 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 protective equipment

- **Hand Protection:** Wear suitable gloves resistant to chemical penetration
- **Eye Protection:** Chemical safety goggles
- **Body Protection:** Wear suitable protective clothing.
- **Respiratory protection:** Where respirators are deemed necessary to reduce or control occupational exposure, use NIOSH-approved respiratory protection and have an effective respirator program in place.

Additional Information

- Only use protective equipment in accordance with national/international regulations. Follow the national regulation about wearing personal protective equipment and the warranty given.
- Exposure may occur during manufacture, transportation and industrial use.
- Worker exposure is limited by enclosed systems, industrial hygiene controls and personal protective measures (protective gloves, safety glasses with side-shields, respiratory protection if ventilation is inadequate).

Control of environmental exposure

- Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Sr.No.	Parameter	Typical value
1.	Appearance	Grey- beige brown powder
2.	Odor	Odorless
3.	Odour Threshold	Not available
4.	pH	7.52 (5% Aqueous solution)
5.	pKa	Not available
6.	Melting point	170-176 °C
7.	Boiling point	The test item shows a boiling and/or thermal decomposition earliest at ca. 298°C.
8.	Flash point	203.5°C
9.	Evaporation rate (n-BuAc=1)	Not available
10.	Explosive limits	Not available
11.	Vapor pressure	0.007 Pa at 20°C and 0.28 Pa at 50°C.
12.	Solubility	Slightly soluble in water (49.63 g/L at Temp.20 °C), Soluble in Ethanol, methanol etc.
13.	Log Kow (octanol/water)	0.05 at 25 °C (Estimated)



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14.	Auto-ignition temperature	Not available
15.	Viscosity	Not available
16.	Relative Density	1.38 at 20°C
17.	Flammable material	No
18.	Corrosive material	No
19.	Explosive material	No
20.	Oxidising Property	No

9.2 Other safety information

- No data available.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

- 2-Amino-3-hydroxypyridine is Grey- beige-brown powder .It is slightly soluble in water.

10.2 Chemical stability

Stable under normal temperature and pressures

10.3 Possibility of hazardous reactions

- Hazardous Polymerization:** Not reported.

10.4 Conditions to avoid

- Exposure to flames, sparks, moist condition, mechanical shock, incompatible material and excess heat.

10.5 Incompatible materials

- Strong oxidizing agents, strong acids, acid chloride acid anhydride.

10.6 Hazardous decomposition products

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

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

RTECS: Not available

LD 50 (Oral): >50-200 mg/kg (Mouse)

LD50 (Oral) Rat:262.09 mg/kg (Predicted Oral rat LD50 from consensus method)

Acute toxicity	: Toxic if swallowed
Skin corrosion/irritation	: Causes skin irritation
Serious eye damage/eye irritation	: Causes serious eye irritation
Respiratory or skin sensitization	: Not available
Germ cell mutagenicity	: Not available
Carcinogenicity	: Not listed by NTP, IARC and OSHA Not present on the EU CMR list According to information presently available 2-Amino-3-hydroxypyridine is not found to be carcinogenic.
Specific target organ toxicity - single exposure	: Causes irritation to respiratory system
Specific target organ toxicity - repeated exposure	: May cause damage to organs through prolonged exposure
Aspiration hazard	: Not available

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

- Fathead minnow LC50 (96hr)-363.89 mg/l (Predicted Fathead minnow LC50 (96hr) from consensus method)
- Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - 24.6 mg/L - 48 h.
- Toxicity to algae: EC50 - Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) - 1.23 mg/L - 72 h.

12.2 Persistence and degradability



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It has estimated that Chemical 2-Amino-3-hydroxypyridine 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, 75 days, exceeds the EPA criteria of ≥ 2 months (and ≤ 6 months). Therefore, 2-Amino-3-hydroxypyridine is estimated to be persistent in the environment. 2-Amino-3-hydroxy pyridine is not readily biodegradable.

12.3 Bio accumulative potential

2-Amino-3-hydroxy pyridine (16867-03-1)	
Bio concentration factor	3.162 (Estimated)
Log Kow	0.05 at 25 °C (Estimated)

Based on the Log Kow and Bioconcentration factor value it is expected to have low potential to concentrate in fatty tissue of fish and aquatic organisms relative to its surroundings. It has estimates that 2-Amino-3-hydroxypyridine is not expected to bioaccumulate in the food chain because it does not exceed the BCF criteria

12.4 Mobility in soil

2-Amino-3-hydroxy pyridine (16867-03-1)	
Log koc	45 (estimated). Low sorption
Henry's Law constant	2.59E-013 atm-m ³ /mole (Estimated)
Log Kow	0.05 at 25 °C (estimated). Low potential to bioaccumulation.

12.5 Other adverse effects

- Environment Fate**

Based on the environmental modeling, this material is expected to be found predominantly in soil and it has estimated to be persistent in the environment. It is not expected to bioaccumulate in the food chain because it does not exceed the BCF criteria. 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

- Contact a licensed professional waste disposal service to dispose of this material. Dispose in a safe manner in accordance with local/national regulation. Observe all federal, state and local environmental regulation
- This combustible material may be burnt in a chemical incinerator equipped with a after burner and scrubber. Note that disposal regulations may also apply to empty containers and equipment reinstates.

SECTION 14: TRANSPORT INFORMATION

ADR/ RID/ DOT	IMDG	IATA
14.1. UN number		
2811	2811	2811
14.2. UN proper shipping name		
Toxic solid, organic N.O.S. (2-Aminopyridin-3-ol)	Toxic solid, organic N.O.S. (2-Aminopyridin-3-ol)	Toxic solid, organic N.O.S. (2-Aminopyridin-3-ol)
14.3. Transport hazard class(es)		
6.1	6.1	6.1
14.4. Packing group		
III	III	III
14.5. Environmental hazards		
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes
No supplementary information available		

14.6 Special precautions for user

- No data available



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SECTION 15: REGULATORY INFORMATION

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

- European Union Information**

Classification as per CLP Regulation 1272/2008:

Acute toxicity Oral: Category 3
Skin corrosion / irritation : Category 2
Serious eye damage/eye irritation - Category 2
STOT-Single Exposure: Category 3
Specific target organ toxicity - repeated (STOT-RE): Category 2
Hazardous to the aquatic environment –Acute Hazard: Category 2
Hazardous to the aquatic environment-Chronic Hazard: Category 2

- Hazard Statements : H301; H315;H319 H335,H373,H411

Chemical Inventory Lists:	Status
TSCA:	Not listed
EINECS:	240-886-8
Canada(DSL/NDSL):	Listed/DSL
Japan:	Not listed
Korea:	Not listed
Australia:	Present
China: IECSC	Present

US information

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

2-Amino-3-hydroxypyridine is not listed

SARA 302/304 : 2-Amino-3-hydroxypyridine is not listed

SARA 311/312 : See section 2 for more information

California Prop. 65: 2-Amino-3-hydroxypyridine is not listed

CAA (Clean Air Act): 2-Amino-3-hydroxypyridine is not listed

CWA (Clean Water Act): 2-Amino-3-hydroxypyridine 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: 2-Amino-3-hydroxypyridine is not listed

SECTION 16: OTHER INFORMATION

a) Compilation information of safety data sheet

Date of compilation : 26-10-2012
Chemical : 2-Amino-3-hydroxypyridine
CAS # : 16867-03-1
File Name : 0177Gj Ghs10 Div.03 sds 2-Amino-3-hydroxypyridine
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b) A key or legend to aberrations and acronyms used in the safety data sheet

- 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.
- RTECS= Registry of Toxic Effects of Chemical Substances.
- NTP=National Toxicology Program.
- IARC= International Agency for Research on Cancer.
- Classification, Labeling and Packaging.



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- LD / LC = Lethal Doses / Lethal Concentration.
- GHS = Globally Harmonized System.
- ADR = Accord European relative au transport international de marchandises.
- US DOT = United States Department of Transportation.
- IMDG-Code = International Maritime Code for Dangerous Goods.
- ICAO = International Civil Aviation Organization.
- IATA/DGR= International Air Transport Association/Dangerous Goods Regulation

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)
