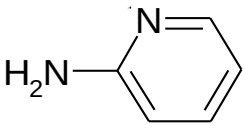
Date of Compilation:	October 19, 2012
Date of Revision:	February 09, 2024
Due date of Revision:	January 2027
Revision Number:	18
Version Number:	0015Gj Ghs18 Div.3 sds 2-Aminopyridine
Supersedes date:	October 11, 2022
Supersedes version:	0015Gj Ghs17 Div.3 sds 2-Aminopyridine

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

1.1. Product identifier

Product identification : 2-Aminopyridine;
CAS RN ; 504-29-0;
EC# : 207-988-4
Trade name : 2-Aminopyridine
Systematic Name : 2-Aminopyridine, 2-Pyridinamine, 2-Pyridylamine
Synonyms : *a*-pyridylamine; alpha-aminopyridine; *o*-aminopyridine; amino-2-pyridine; alpha-pyridinamine; 2-pyridinamine
Molecular Formula : $C_5H_6N_2$
Structural Formula



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

1.2.1. Relevant identified uses

The primary use of 2-aminopyridine is as an intermediate in the pharmaceutical industries, particularly in the production of antihistamines and piroxicam. It is also used as an intermediate in the agrochemical industries.

Uses advised against: None

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 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: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute Toxicity Oral: Category 3	H301
Acute Toxicity Dermal: Category 4	H312
Skin Irritation: Category 2	H315
Eye irritation: Category 2	H319
Hazardous to the Aquatic Environ.chronic: Category 2	H411

2.2. label elements

GHS-US classification

Pictograms:

GHS 06-Toxic

GHS 09- Environmental Hazards

Signal word: Danger!

Hazard and precautionary statements:

Hazard Statements

- H301: Toxic if swallowed.
- H312: Harmful in contact with skin.
- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H411: Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

- P264: Wash clothes thoroughly after handling.
- P270: Do not eat, drink or smoke when using this product.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P273: Avoid release to the environment.
- P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P330: Rinse mouth.
- P302+P352: IF ON SKIN: Wash with soap and water.
- P312: Call a POISON CENTER or doctor/physician if you feel unwell.
- P363: Wash contaminated clothing before reuse.
- P332+P313: If skin irritation occurs: Get medical advice/attention.
- P362: Take off contaminated clothing and wash before reuse.
- P305+P351+P338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
- P337+P313: Get medical advice/attention.
- P391: Collect spillage.
- P405: Store locked up.
- P501: Dispose of contents/container to local/regional/national/international regulations.

2.3 Other Hazards

- The Substance is Marine pollutant

SECTION 3 : Composition/information on ingredients

Substance	CAS No.	EINECS No.	Purity
2-Aminopyridine	504-29-0	207-988-4	100 %

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. 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. Toxic vapours may be released on thermal decomposition including nitrogen oxides, carbon monoxide and cyanide.
- **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: Redness.
Delayed: No data available

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. Toxic vapours may be released on thermal decomposition including nitrogen oxides, carbon monoxide and cyanide.
- **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.

- *Appropriate extinguishing media*: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. If material on fire or involved in fire: Extinguish fire using agent suitable for type of surrounding fire. (Material itself does not burn or burns with difficulty.) Use water in flooding quantities as fog. Use foam, dry chemical, or carbon dioxide. Keep run-off water out of sewers and water sources.

5.2. Special hazards arising from the substance or mixture.

- Toxic vapors may be released on thermal decomposition including nitrogen oxides and carbon monoxide
- High vapor concentration may result in an explosion hazard.
- Closed containers may explode from heat of a fire.

5.3. Advice for firefighters.

- Use water spray or fog; do not use straight streams.
- Dike fire-control water for later disposal; do not scatter the material.
- Containers may explode when heated. Move containers from fire area if you can do it without risk.
- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural fire fighters' protective clothing provides limited protection in fire situations ONLY; it may not be effective in spill situations.
- Wear chemical protective clothing which is specifically recommended by the manufacturer. It may provide little or no thermal protection

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.
- Alert Emergency Responders and tell them location and nature of hazard.
- Shut off all possible sources of ignition and increase ventilation.
- Avoid breathing vapors and contact with skin and eyes.

6.2. Environmental precautions.

- Clean up all spills immediately and prevent, by spillage from entering drains or water and watercourses.
- Inform authorities in event of contamination of any public sewers, drains or water bodies.

6.3. Methods and material for containment and cleaning up.

- Collect recoverable product into labeled containers for recycling, recovery or disposal.
- Spread area with lime or absorbent material, and leave for at least 1 hour before washing.

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

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

7.3. Specific end use(s)

- It is used as an intermediate in the pharmaceutical industries, particularly in the production of antihistamines and piroxicam. It is also used as an intermediate in the agrochemical industries.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters:

8.1.1 Exposure Limits Values

Chemical name	WEL 8hr TWA (ppm)	STEL (ppm)	NIOSH	ACGIH	OSHA - Final PELs
2-Aminopyridine	0.5	2.0	0.5 ppm TWA; 2 mg/m3 TWA 5 ppm IDLH	0.5 ppm TWA	0.5 ppm TWA; 2 mg/m3 TWA

8.1.2Exposure Limits (International):

- **OSHA Vacated PELs:** 2-Aminopyridine: 0.5 ppm TWA; 2 mg/m3 TWA

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

- DNEL and PNEC data not available.

8.2. Exposure controls

8.2.1Appropriate 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 or as described below.

  In full contact:
  Glove Material: Nitrile rubber
  Layer Thickness: 0.11 mm
  Breakthrough time: > 480 Min

  In splash contact:
  Glove Material: nitrile rubber
  Layer Thickness: 0.11 mm
  Breakthrough time: > 480 Min
- **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	White leaflets or large colorless crystals
2.	Odor	Characteristic- similar to pyridine
3.	Odor Threshold	Not available
4.	pH	9.4 (890g/l, water, 20ºC)
5.	Melting point/Freezing point	> 57 - < 59 °C (Melting point)
6.	Boiling Point	210.6 °C
7.	Flash point	68º C closed cup
8.	Evaporation rate (n-BuAc=1)	Not available

9.	Flammability	Combustible liquid
10.	Upper/lower flammability or Explosive limits	Not available
11.	Vapor pressure	0.80 mm Hg at 25 °C
12.	Vapor density (air=1)	3.2
13.	Relative density	1.065 @20º C
14.	Solubility	>100g/100 ml in water@20 deg C Soluble in alcohol, benzene, ether, and hot petrol ether
15.	Partition coefficient : n-(Octonol / water)	0.48
16.	Auto-ignition temperature	> 630°C
17.	Decomposition temperature	Not available
18.	Viscosity	Not available
19.	Explosive property	No
20.	Oxidizing property	No

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

- 2-Aminopyridine iswhite leaflets or large colorless crystalslike odor Characteristic- similar to pyridine. It is Soluble in water, alcohol, benzene, ether, hot petrol ether, acetone and organic solvents; slightly soluble in chloroform.

10.2. Chemical stability

- Oxidizes and darkens with time. Heat and light accelerate this process.

10.3. Possibility of hazardous reactions

- Hazardous Polymerization: Will not occur.

10.4. Conditions to avoid

- Keep away from heat, sparks, flame, high temperature and incompatible chemicals.

10.5. Incompatible materials

- Strong oxidizing agents.

10.6. Hazardous 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

a) Acute toxicity

- 2-Aminopyridine causes skin, and eyes irritation. It is toxic if swallowed and harmful in contact with skin.
- The following chronic health effects can occur at some time after exposure to 2-Aminopyridine and can last for months or years.
- Other long-term effects: 2-Aminopyridine has not been tested for other chronic health effects.

RTECS#: US1575000

ACUTE ORAL LD_{50}	= 200 mg/kg
ACUTE DERMAL LD50	**=** >1000 mg/Kg bw
ACUTE INHALATION TCLo (Human)	= 5ppm/5H
INTRAPERITONEAL MOUSE LD_{50}	= 25mg/kg
INTRAVENOUS LD50 (mouse)	**=** 23mg/kg
INTRACEREBRAL LD_{50} (mouse)	**=** 4mg/kg
SUBCUTANEOUS LD_{50} (mouse)	= 70mg/kg

b) Skin corrosion/irritation

- Causes skin irritation.

c) Serious eye damage/irritation

- Causes eye irritation.

d) Respiratory or skin sensitization

- No data is available.

e) Germ cell Mutagenicity

- No data is available.
- It is expected to be Non Mutagenic.

f) Carcinogenicity

- Not listed by NTP, IARC and OSHA.
- Not present on the EU CMR list.
- According to information presently available 2-Aminopyridine is not found to be carcinogenic.

g) Reproductive toxicity

- No data is available.

h) STOT-single exposure

- No data is available.

i) *STOT- repeated exposure*

- No data available.

j) Aspiration Hazards

- No data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1.Toxicity

12.1.1Ecotoxicity:

- Fish 96hr LC50 (Oryzias latipes) : 6 mg/L
- Daphnia 48 hr EC50= 35 mg/l ;
- Green Algae 72-hr EC50= 12 mg/l

12.2. Persistence and degradability

- It is not expected to be readily biodegradable in aerobic and anaerobic conditions.
- "Persistence is not expected (log Kow<4)

12.3. Bioaccumulative potential

- BCF = 3.2
- Log Kow = 0.48

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.

12.4. Mobility in soil

- The Koc for 2-aminopyridine can be estimated to be 45(SRC). According to a classification scheme (2), this estimated Koc value suggests that 2-aminopyridine is expected to have very high mobility in soil.
- However, the pKa of 2-aminopyridine is 6.86(3), indicating that this compound will partially exist in the protonated form in the environment and cations generally adsorb to organic carbon and clay more strongly than their neutral counterparts.

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:**
- Based on the environmental modeling, this material has a low potential to get absorbed in the organic matter of soil and is non-volatile from water bodies and it is expected to have very high mobility in soil. 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

- 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.
- 2-Aminopyridine may be disposed of: 1. By making packages of 2-aminopyridine in paper or other flammable material and burning in a suitable combustion chamber equipped with an appropriate effluent gas cleaning device.

SECTION 14: TRANSPORT INFORMATION

In accordance with ADR / RID / IMDG / IATA

Mode of Transport	**Agency**
Land transport	ADR/RID
Maritime Transport	IMDG
Air Transport	IATA

14.1. UN number

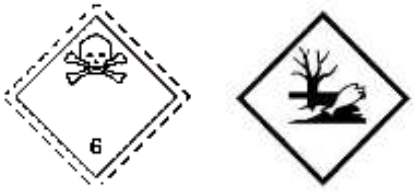
- UN 2671

14.2. UN proper shipping name

- Aminopyridines (o-; m-; p-)

14.3. Transport hazard class(es)

- Hazard class: 6(6.1)
- Hazard Label



14.4. Packing group

- **II**

14.5. Environmental hazards

- Marine pollutant – Yes

SECTION 15: REGULATORY INFORMATION

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

- European/International Regulations.
- European Labelling in Accordance with EC Directives.

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

- **Hazards Class and Category**: Acute ToxOral Cat 3;Acute Tox Dermal Cat.4;Skin irrit Cat2 ;Eye irrit Cat2 ; Aquatic chronic Cat 2
- **Hazard Statements:** *H301; H312;H315;H319;H411*

Chemical Inventory Lists:	Status
TSCA:	Listed (Active)
EINECS:	207-988-4
Canada(DSL/NDSL):	Listed/DSL
Japan:	5-724
Korea:	KE 29925
Australia:	Listed
China: IECSC	Listed

US information

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act): 2-Aminopyridine is not listed
SARA 302/304 : 2-Aminopyridine is not listed
SARA 311/312 : See section 2 for more information
California Prop. 65: 2-Aminopyridine is not listed
CAA (Clean Air Act): 2-Aminopyridine is not listed
CWA (Clean Water Act): 2-Aminopyridine is 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-Aminopyridine is not listed

SECTION 16: OTHER INFORMATION

(a) Compilation information of safety data sheet

Date of Compilation	: October 19, 2012
Chemical	: 2-Aminopyridine
CAS #	:504-29-0
File Name	: 0015Gj Ghs18 Div.3 sds 2-Aminopyridine
Revision Number	: 18
Date of Issue of SDS	: February 09, 2024
Revision Due Date	: January, 2027
Supersedes date	: October 11, 2022

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

- PBT =Persistent Bioaccumulative and Toxic
- 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
- 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 = Threshhold 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 European 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

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

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)