



2,3-Dichloropyridine

Safety Data Sheet

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

Date of Compilation	: July 1, 2011
Date of Revision	: February 15, 2024
Due Revision date	: January, 2027
Revision Number	: 09
Version Number	: 0497Bh Ghs09 Div.05 sds 2,3-Dichloropyridine
Supersedes date	: January 02, 2024
Supersedes version	: 0497Gj Ghs08 Div.03 sds 2,3-Dichloropyridine



2,3-Dichloropyridine

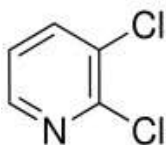
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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

PRODUCT NAME	: 2,3-Dichloropyridine
CAS RN	: 2402-77-9
EC#	: 219-281-8
SYNONYMS	: 2,3-Dichloropyridine; Pyridine, 2,3-dichloro-
TRADE NAME	: 2,3-Dichloropyridine
MOLECULAR FORMULA	: C ₅ H ₃ NCI ₂



STRUCTURAL FORMULA

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

Relevant identified uses

2,3-Dichloropyridine is used as an intermediate in pharmaceuticals and pesticides.

Uses advised against: None

Details of the supplier of the safety data sheet

Jubilant Ingrevia Limited

FACTORY OFFICE: Jubilant Ingrevia Limited (Unit-2), Plot No:-P1-L13 To L16, Within Jubilant sector specific SEZ for chemicals at Plot No:5, Vilayat GIDC, Taluka-Vagra, Dist:Bharuch, Gujarat, 392012 India, Tel.:+91-2641-281500, 281507, Fax.:+91-2641-281515

HEAD OFFICE: Jubilant Ingrevia Limited, Plot 1-A, Sector 16-A, Institutional Area, Noida, Uttar Pradesh, 201301 - India
+91-120-4361000 E-mail: support@jubl.com

Emergency telephone number

For Chemical Emergency (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

SECTION 2: HAZARD(S) IDENTIFICATION

Classification of the substance or mixture

GHS-US classification

Skin irritation (Category 2)	H315	Causes skin irritation.
Eye irritation (Category 2)	H319	Causes serious eye irritation
Specific target organ toxicity - single exposure (Category 3)	H335	May cause respiratory irritation

Label Elements

Hazard Pictogram: GHS 07

Signal Word: Warning!



HAZARD AND PRECAUTIONARY STATEMENTS:

HAZARD STATEMENTS

- 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.
- P271: Use only outdoors or in a well-ventilated area.
- P302+352: IF ON SKIN: Wash with plenty of soap and water.
- P332+313: If skin irritation occurs: Get medical advice/attention.



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- 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+P233: 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

Chemical	CAS #	EINECS No.	Purity
2,3-Dichloropyridine	2402-77-9	219-281-8	≥98%

SECTION 4: FIRST AID MEASURES

Description of first aid measures

Key symptoms:

Acute effects

- It is irritating to skin and eyes. It is also irritation to tissues of the mucous membranes and upper respiratory tract.

Chronic effects:

- To the best of our knowledge prolonged health effects of this products have not been fully investigated.

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:** If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve.
- **Ingestion:** If swallowed call a poison center if you feel unwell. Rinse mouth. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media

- *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.

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.
- Do not get water inside the containers.
- Fire fighters must wear Self Contained Breathing Apparatus (SCBA) and full protective clothing.
- Report any run-off of fire waters 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, Carbon di-oxide, Nitrogen oxides, halogenated compounds e.g HCl gas and irritating and toxic fumes is produced during combustion.
- 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

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



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- Decontaminate all equipment.
- Alert Emergency Responders and tell them location and nature of hazard.
- Clean up all spills immediately following relevant Standard Operating Procedures.
- Avoid breathing vapours and contact with skin and eyes.
- Inform authorities in event of contamination of any public sewers, drains or water bodies.
- Prevent, by any means available, spillage from entering drains or water and watercourses.
- Collect recoverable product into labelled containers for recycling, recovery or disposal..
- Spread area with lime or absorbent material, and leave for at least 1 hour before washing.
- Clean up all tools and equipment.
- Decontaminate all equipment.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

- Do not breathe dust 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 at ambient temperature in a well ventilated place.
- Store away from incompatible materials.
- Keep container tightly closed when not in use.

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

- Exposure Limits Values

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
2,3-dichloropyridine	Not established	Not established	Not established

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. 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.
- 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.



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SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

• **Information on basic physical and chemical properties.**

Sr.No.	Parameter	Typical value
1.	Appearance	Off-white to light brown colored powder.
2.	Odor	Not Available
3.	Odor Threshold	Not available
4.	Molecular weight	147.99
5.	pH	Basic
6.	Melting point/Freezing point	65-67°C
7.	Initial Boiling point and boiling range	192°C (Predicted)
8.	Flash point	88°C (Predicted)
9.	Evaporation rate (n-BuAc=1)	Not available
10.	Flammability (Solid, gas)	Non Flammable
11.	Upper/lower flammability or Explosive limits	Not available
12.	Vapor pressure	0.679mmHg at 25°C
13.	Vapor density (air=1)	Not available
14.	Relative density	1.388g/cm3
15.	Solubility	Soluble in Methylene dichloride and Toluene. Slightly soluble in water
16.	Log Pow, partition coefficient (Octanol /water)	2.11 (estimated)
17.	pKa (@25 °C)	Not available
18.	Auto-ignition temperature	Not available
19.	Decomposition temperature	Not available
20.	Viscosity	Not available
21.	Explosive property	No
22.	Oxidizing property	No

SECTION 10: STABILITY AND REACTIVITY

- **Stability:** Stable at room temperature in closed containers under normal storage and handling conditions.
- **Conditions to avoid:** Keep away from High temperature, sparks, moist condition, mechanical shock, incompatible materials, ignition sources, excess heat. Strong heating, strong oxidants.
- **Incompatible chemicals:** Strong oxidizing agents and mineral acids. .
- **Hazardous decomposition products:** Thermal decomposition may produce carbon monoxide and oxides of nitrogen, carbon dioxide, Hydrogen chloride, and irritating and toxic fumes.
- **Hazardous Polymerization:** Not reported.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity : It is irritating to skin and eyes. It is also irritation to tissues of the mucous membranes and upper respiratory tract.
LD50/LC 50

2,3-Dichloropyridine (2402-77-9)	Route	Species Observed	Toxic effects
LD 50 Lethal dose	135 mg/kg. Intraperitoneal	Rodent Mouse	Behavioral – somnolence (general depressed activity) Behavioral - antipsychotic Liver - fatty liver degeneration

Skin Corrosion/ Irritation : Causes skin irritation.

Serious Eye Damage/Irritation : Causes serious eye irritation.



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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 2,3-Dichloropyridine is not found to be carcinogenic.
Reproductive Toxicity	: Not available.
STOT-Single Exposure	: May cause respiratory irritation
STOT- Repeated Exposure	: Not available.
Aspiration hazard	: Not available.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

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Fathead minnow LC ₅₀ (96 hr)	91 mg/l (It is expected to be non-toxic to aquatic organisms)
Daphnia magna LC ₅₀ (48 hr)	14.27 mg/l

Persistence and degradability

2,3-Dichloropyridine (2402-77-9)

Persistence and degradability	It is expected to be not readily biodegradable
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Bioaccumulative potential

2,3-Dichloropyridine (2402-77-9)

Bio concentration factor (BCF REACH)	11.46 L/Kg
Log Kow	2.11

Based on the Log Kow and Bio concentration factor value it is expected to have very low potential to concentrate in fatty tissue of fish and aquatic organisms relative to its surroundings

Mobility in soil

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Log Koc	2.27 (estimated). Negligible sorption.
Henry's Law Constant	2.44E-004 atm-m ³ /mole at 25 degrees. It is expected to be volatile from aqueous phase.
Log Kow	2.11 (estimated). Low potential to bioaccumulation.

Results of PBT and vPvB assessment

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

Other adverse effects

Other information : 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

Waste treatment methods

Waste disposal recommendations - 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

- It is expected that this chemical is not a marine pollutant and is not Harmful to the Aquatic environment.



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SECTION 15: REGULATORY INFORMATION

- **European Union Information**

Classification as per CLP Regulation 1272/2008:

- **Hazards Class and Category:** Eye Dam. Cat 2; Skin Irr. Cat 2; STOT SE Cat 3.
- **Hazard Statements:** H315; H319; H335.

Chemical Inventory Lists	Status
TSCA:	Not Listed
EINECS:	Listed
Canada(DSL/NDL):	Not Listed
Japan:	Not Listed
Korea:	Not Listed
Australia:	Not Listed
China: IECSC	Not Listed

US information

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

2,3-Dichloropyridine is not listed

SARA 302/304 : 2,3-Dichloropyridine is not listed

SARA 311/312 : See section 2 for more information

California Prop. 65: 2,3-Dichloropyridine is not listed

CAA (Clean Air Act): 2,3-Dichloropyridine is not listed

CWA (Clean Water Act): 2,3-Dichloropyridine 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: 2,3-Dichloropyridine is not listed

SECTION 16: OTHER INFORMATION

a) Compilation information of safety data sheet

Date of compilation : July 1, 2011
Chemical : 2,3-Dichloropyridine.
CAS # : 2402-77-9
File Name : 0497Bh Ghs09 Div.05 sds 2,3-Dichloropyridine
Revision Number : 09
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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.
- IARC= International Agency for Research on Cancer.
- EPA=Environmental Protection Agency.
- TSCA= Toxic Substances Control Act.
- CERCLA= Comprehensive Environmental Response, Compensation, and Liability Act.



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- 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 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
- REG (EC) no. 1907/2006, last modification by REG (EC) Nr. 830/2015

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)