



3-Chloropyridine

Safety Data Sheet

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

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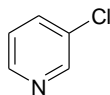
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

PRODUCT NAME	: 3-Chloropyridine
CAS RN	: 626-60-8
EC#	: 210-955-7
SYSTEMATIC NAME	: Pyridine, 3-chloro-
MOLECULAR FORMULA	: C ₅ H ₄ ClN
STRUCTURAL FORMULA	



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

1.2.1. Relevant identified uses

- 3-Chloropyridine is used for research and development purposes only. It is probably used as an intermediate in the pharmaceutical industry.

Uses advised against: None

1.3. Details of the supplier of the safety data sheet

Jubilant Ingrevia Limited

FACTORY OFFICE: Jubilant Ingrevia Limited., B-34,M.I.D.C. Vadolgaon,Ambarnath(W)- 421501,Maharashtra, India
T +91-251-2610588 F +91-251-2610078

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

Flammable Liquid: Category 4

Eye Damage/ irritation: Category 2B

Skin Corrosion/irritation: Category 2

Germ Cell Mutagenicity: Category 2

Acute Toxicity Dermal: Category 3

Specific Target Organ Toxicity: Category3

2.2. Label Elements

Hazard Pictogram: GHS 06,GHS 08



Signal Word: Danger!

HAZARD AND PRECAUTIONARY STATEMENTS:

HAZARD STATEMENTS

- H227: Combustible liquid.
- H320: Causes eye irritation.
- H315: Causes skin irritation.
- H341: Suspected of causing genetic defects.
- H311: Toxic in contact with skin.
- H335: May cause respiratory irritation.

PRECAUTIONARY STATEMENTS

- P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking.



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- P201: Obtain special instructions before use.
- P202: Do not handle until all safety precautions have been read and understood.
- P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
- P271: Use only outdoors or in a well ventilated area.
- P264: Wash hands, eyes and face thoroughly after handling.
- P280: Wear protective gloves/clothing and eye/face protection.
- P281: Use personal protective equipment as required.
- P361: Remove/Take off immediately all contaminated clothing.
- P302+P352: IF ON SKIN: Wash with plenty of soap and water.
- P312: Call a POISON CENTRE or doctor/physician if you feel unwell.
- 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+313: If eye irritation persists: Get medical advice/attention.
- P363: Wash/Decontaminate removed clothing before reuse.
- P321: Specific treatment(see... on this label)...reference to supplemental first aid instruction.-if immediately administration of antidote is required.
- P322: Specific treatment(see... on this label)...reference to supplemental first aid instruction.-if measures such as specific cleansing agent is advised.
- P304+340: IF INHALED: Removed victim to fresh air and keep at rest in a position comfortable for breathing.
- P332 + P313: If skin irritation occurs: Get medical advice/attention.
- P362: Take off contaminated clothing and wash before reuse.
- P308 + P313: If exposed or concerned: Get medical advice/ attention
- P405: Store locked up.
- P403+233: Store in a well ventilated place. Keep container tightly closed.
- P403+235: Store in a well ventilated place. Keep cool.
- P501: Dispose of contents/container to local/regional/national/international regulations.

SECTION 3: Composition/information on ingredients

Chemical	CAS #	EC#	Purity
3-Chloropyridine	626-60-8	210-955-7	99 % min.

SECTION 4: First aid measures

4.1. Description of first aid measures

Key symptoms

Acute effects

3-Chloropyridine is irritating and toxic in contact with skin. Inhalation may cause irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. It is suspected of causing genetic defects.

Chronic effects:

To the best of our knowledge, the chronic health effects of this product have not been fully investigated.

FIRST AID

- **Eyes:** Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 15-20 minutes, while holding the eyelid(s) open. Remove contact lenses if easy to do so. Continue rinsing. If irritation persists, seek medical attention.
- **Skin:** Immediately take off all contaminated clothing. Quickly and gently blot or brush away excess chemical. Wash thoroughly with lukewarm, gently flowing water and non-abrasive soap for 15-20 minutes. Wash contaminated clothes before reuse. If irritation persists, obtain medical advice.
- **Inhalation:** Remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if you feel unwell.
- **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

Extinguishing media

- *Appropriate extinguishing media:* Dry chemical powder, carbon dioxide, and alcohol resistant foam. Water may also be used. 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.

Special Protective Equipment and Precautions for Fire Fighter:



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- 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) and full protective clothing. The chemical is harmful in contact with skin.
- 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, hydrogen chloride, carbon monoxide and cyanide.
- High vapor concentration may result in an explosion hazard.
- When heated to decomposition, it emits highly toxic fumes of Sulfur.
- Vapors are heavier than air. May travel considerable distance from source and flashback.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Minor Spills

- Clean up all spills immediately following relevant Standard Operating Procedures.
- Avoid breathing vapors and contact with skin and eyes.
- Shut off leak source if possible.
- Shut off all possible sources of ignition.
- Wear protective clothing, boots, impervious gloves and safety glasses.
- Wipe up.
- Decontaminate all equipment.

Major Spill

- Alert Emergency Responders and tell them location and nature of hazard.
- Shut off all possible sources of ignition and increase ventilation.
- Wear protective clothing, full boots, impervious gloves, safety glasses and Self Contained Breathing Apparatus (SCBA), as may be deemed appropriate.
- Clear area of personnel and move upwind.
- Stop leaks if possible.
- 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.
- Clean up all tools and equipment.
- Inform authorities in event of contamination of any public sewers, drains or water bodies.

SECTION 7: HANDLING AND STORAGE

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.

Storage

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

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

- **Exposure Limits Values**

Chemical name	STEL (ppm)	NIOSH	ACGIH	OSHA
3-Chloropyridine	None available	None available	None available	None available



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Exposure Limits (International):

- Not available.

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.
- 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.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties.

Sr.No.	Parameter	Typical value
1.	Appearance	Colorless to light yellow liquid (Color turns dark on storage)
2.	Odour	Not available
3.	Odour Threshold	Not available
4.	pH	Not available
5.	Melting point	-0.5° C
6.	Boiling point	148° C
7.	Flash point	66° C (closed cup)
8.	Evaporation rate (n-BuAc=1)	Not available
9.	Explosive limits	Not available
10.	Vapor pressure	4.000 mm Hg (25 °C)
11.	Relative Vapor density (air=1)	3.92
12.	Specific gravity	1.19 – 1.20 at 20° C
13.	Water Solubility	10 g/l (20° C)
14.	Solubility	Soluble in Methylene dichloride
15.	Log Kow	1.3
16.	Auto-ignition temperature	Not available
17.	Decomposition temperature	> 610 deg C
18.	Viscosity	Not available
19.	Molecular Weight	113.55
20.	pKa @ 25° C	2.84
21.	Log Koc	1.72
22.	Flammable material	Not flammable
23.	Oxidizer	No
24.	Corrosive material	No
25.	Explosive material	No



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SECTION 10: STABILITY AND REACTIVITY

- **Stability:** Stable at normal conditions of temperature and pressure. But colour changes from pale yellow to wine red on storage.
- **Conditions to avoid:** Incompatible Materials, Heat, Ignition sources.
- **Incompatible chemicals:** Strong oxidizing agents.
- **Hazardous decomposition:** Thermal decomposition may produce nitrogen oxides, hydrogen chloride, carbon dioxide and carbon monoxide.
Hazardous Polymerization: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

- **Acute toxicity**
- **3-Chloropyridine is irritating and toxic in contact with skin. Inhalation may cause irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. It is suspected of causing genetic defects.**

RTECS#: US6125000

Species:	Wild Bird
Route:	Oral
Dosage:	750 mg/kg
End Point:	LD50
Toxic Effects:	Not Reported
Reference:	Archives of Environmental Contamination and Toxicology 12,355,1983 DOI: 10.1007/BF01059413

Species:	Mouse
Route:	Intraperitoneal
Dosage:	235 mg/kg
End Point:	LD50
Toxic Effects:	Behavioral: Somnolence (General Depressed Activity) Behavioral: Antipsychotic Liver: Fatty Liver Degeneration
Reference:	Toxicology and Applied Pharmacology. Vol. 11, Pg. 361, 1967. Physical

- **LD50 (Dermal)- 1000 mg/kg (Based on structural analogs)**
- **LD50 (Inhalation)- 10000mg/m³ (Based on structural analogs)**
 - a) **Skin corrosion/irritation**
 - Causes skin irritation.
 - b) **Serious eye damage/irritation**
 - Causes eye irritation.
 - c) **Respiratory or skin sensitization**
 - May cause irritation to respiratory system.
 - d) **Germ cell Mutagenicity**
 - Mutagenic effects have been observed in tests with laboratory animals

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Species:	Mouse
Tissue:	Lymphocyte
Dosage:	1433 mg/l
Test System:	Micronucleus Test
Toxic Effects:	Not Reported
Result:	Positive < Mutagenic
Reference:	Mutation Research 301,57,1993 DOI: 10.1016/0165-7992(93)90057-3

- e) **Carcinogenicity**
- Not listed by NTP, IARC and OSHA.
 - Not present on the EU CMR list.
 - According to information presently available 3-Chloropyridine is not found to be carcinogenic.
- f) **Reproductive toxicity**
- No data is available.
- g) **STOT-single exposure**
- No data is available.
- h) **STOT-repeated exposure**
- No data available.
- i) **Aspiration Hazards**
- No data available.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Ecotoxicity:

- Fish ChV (mg/l) = 33 mg/l
- Based on the Fish ChV value it is non-toxic to fish and other aquatic organisms.

Persistence and degradability

- 3-Chloropyridine is 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). It is also expected to be found in water, but not in sediment. Therefore, 3-Bromopyridine is estimated to be persistent in the environment.

Bio accumulative potential

- BCF = 2.1
- Log Kow = 1.3

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. These results are estimated and it is recommended that this material should not be disposed into the environment.

Mobility in soil

- Log Koc = 1.72(Estimated). Low sorption.
- Henry's Law Constant = $5.22 \times 10^{-06} \text{ atm/m}^3 \text{ mole}$ at 25 degrees. It is having low volatility from aqueous bodies.
- Log Kow = 1.3. It has negligible sorption properties.

Other adverse effects.

- **Environment Fate:**
- Based on environmental modeling, this material has a low potential to bioaccumulate and low volatility from water bodies. Since this is an estimated result, necessary guidelines should be followed before disposing off the material in to the environment.

SECTION 13: Disposal considerations

Waste treatment methods


- Burn in a chemical incinerator equipped with an afterburner and scrubber.
- Exert extra care in igniting, as this material is combustible.
- 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/ARD/RID/IMO/IMDG.

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S.No	Agency	UN Number	Proper Shipping name	Hazard Class	Packing Group
Land Transport	ADR/RIC	UN 2810	Toxic Liquid, N.O.S (3-Chloropyridine).	6,(6.1)	III
Maritime Transport	IMDG	UN 2810	Toxic Liquid, N.O.S (3-Chloropyridine).	6,(6.1)	III
Air Transport	IATA	UN 2810	Toxic Liquid, N.O.S (3-Chloropyridine).	6,(6.1)	III
Hazard Label		Toxic, 6, (6.1)			

Environmental hazards:

- Marine pollutant: No

SECTION 15: REGULATORY INFORMATION

- European Union Information

Classification as per CLP Regulation 1272/2008:

- **Hazards Class and Category:** AcuteTox Dermal Cat. 3; Muta. Cat. 2, Skin Irrit Cat. 2 ; STOT SE Cat. 3
- **Hazard Statements:** H311;H341;H315;H335

Chemical Inventory Lists:	Status
TSCA:	Present
EINECS:	210-955-7
Canada(DSL/NDL):	Listed/NDL
Japan:	Not listed
Korea:	Not listed
Australia:	Not listed
China: IECSC	Not listed

US information

- CAS: 626-60-8 is listed on the TSCA inventory.

CANADA

- CAS 626-60-8 is specified in the Non-domestic Substances List.

SECTION 16: OTHER INFORMATION

a) Compilation information of safety data sheet

Date of compilation : June 15, 2012
 Chemical : 3-Chloropyridine
 CAS # : 626-60-8
 File Name : 0549Am Ghs11 Div.3 sds 3-Chloropyridine
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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.

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- 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
- REG (EC) no. 1907/2006, last modification by REG (EC) Nr. 453/2009

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 specificproperty of the product.

(End of Safety Data Sheet)