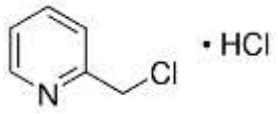
Date of Compilation	: December 24, 2008
Date of Revision	: March 07, 2024
Revision due date	: February, 2027
Revision Number	: 10
Version Name	: 0085Gj Ghs10 Div.03 sds 2-Picolylchloride hydrochloride
Supersedes date	: January 02, 2024
Supersedes version	: 0085Gj Ghs09 Div.03 sds 2-Picolylchloride hydrochloride

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

1.1. Product identifier

PRODUCT NAME	: **2-Picolylchloride hydrochloride**
CAS RN	: 6959-47-3
EC#	: 230-149-9
SYNONYMS	: 2-Picolylchloride hydrochloride, 2-Pyridylmethylchloride hydrochloride, 2-(Chloromethyl)pyridine hydrochloride
SYSTEMATIC NAME	: 2-(Chloromethyl)pyridine hydrochloride
MOLECULAR FORMULA	: C_6H_7NCl2
STRUCTURAL FORMULA	



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

1.2.1. Relevant identified uses

2-(Chloromethyl)pyridine hydrochloride is used as an intermediate for sunscreens, analgesics and anti-inflammatory agents.
Intermediate of API Picoperine, Mefloquine, Enzastaurine.

1.2.2. 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 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

- Acute Toxicity-Oral (Category 4) H302
- Skin corrosion/ irritation (Category 1) H314

2.2. Label Elements

Hazard Pictogram: GHS07, GHS05
Signal Word: Danger!

HAZARD AND PRECAUTIONARY STATEMENTS:

HAZARD STATEMENTS

- H302: Harmful if swallowed
- H314: Causes severe skin burns and eye damage

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 or mist.
- P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P330: Rinse mouth.

- P301+P330+P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
- P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P363: Wash contaminated clothing before reuse.
- P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P310: Immediately call a POISON CENTER or doctor/physician.
- P321: Specific treatment (see supplemental information on this label).
- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P405: Store locked up.
- P501: Dispose of contents/container to local/regional/national/international regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical	CAS #	EC#	Purity
2-Picolylchloride Hydrochloride	6959-47-3	230-149-9	99%(by HPLC)

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
- **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.
- **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

- To the best of our knowledge of this compound have not been fully investigated.

SECTION 5 : FIRE-FIGHTING MEASURES

5.1. Extinguishing media

- Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

- **Fire hazar**d: emits toxic fumes under fire conditions.
- **Explosion hazard**: Risk of explosion with vapours in confined spaces, drainage and sewage system.
- **Reactivity in case of fire**: Thermal decomposition generates: Toxic vapours which could include nitrogen oxides, carbon oxides and Hydrogen chloride gas.
- **Hazardous decomposition products in case of fire**: Hazardous decomposition products may be released during prolonged heating like smokes, Carbon oxides, Nitrogen oxides (NOx), Hydrogen chloride gas.

5.3. Advice for firefighters

- **Precautionary measures fire:** Appropriate self-contained breathing apparatus may be required.
- **Firefighting instructions:** Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. In case of major fire, evacuate area.
- **Protective equipment for firefighters:** Do not enter fire area without proper protection equipment, including respiratory protection

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 vapours, mist or gas. Avoid contact with skin and eyes.

- Wear protective clothing, full boots, impervious gloves, safety glasses and Self Contained Breathing Apparatus (SCBA), as may be deemed appropriate

6.2. Environmental precautions

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

6.3. Methods and materials for containment and cleaning up

- Clean up all spills immediately following relevant Standard Operating Procedures.
- 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.

6.4. Reference to other sections

- For disposal see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

- Do not breathe dust, vapor or mist.
- Avoid contact with skin and eyes.
- Avoid formation of dust and aerosols.
- Provide appropriate exhaust ventilation at places where dust is formed.
- If on skin or hair, IMMEDIATELY remove all contaminated clothing and rinse/shower with plenty of water.
- Use protective clothing commensurate with exposure levels.
- Handle in accordance with good industrial hygiene and safety procedures. Avoid Prolonged or repeated exposure. Take precautionary measures against electrostatic discharge

7.2. Storage

- Store at ambient temperature in a well-ventilated place.
- Keep container tightly closed when not in use.
- Keep away from all heat sources, including direct sun-light, open flame, source of ignition, sparks etc.
- Store away from water and oxidizing agents.
- Hygroscopic.

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

- **Exposure Limits Values**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
2-Picolylchloride Hydrochloride	Not established	Not established	Not established

Exposure Limits (International):

- Not available.

OSHA Vacated PELs:

- No OSHA Vacated PELs are listed for this chemical.

8.2. Exposure controls

Appropriate Engineering Controls:

- General industrial hygiene practice.
- 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**.**

8.3. Personal Protection

- **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.
- Apply skin protective barrier cream
- Do not inhale substances, work under hood.

Control of environmental exposure

- Do not let product enter drains.
- Wash hands and face after working with the substance.
- Under no circumstances eat or drink at the workplace.
- Do not inhale substances, work under hood.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

- Information on basic physical and chemical properties.

Sr.No.	Parameter	Typical value
1.	Appearance	Beige color solid
2.	Molecular weight	164.03
3.	Odor	Characteristic
4.	Odor Threshold	Not available
5.	pH (5.0% slurry in pH 7 water)	1.0 -1.5
6.	Melting point	120 - 124 °C (lit)
7.	Boiling point	187.3 ºC at 760 mmHg (Predicted)
8.	Flash point	83.7ºC (Predicted)
9.	Evaporation rate (n-BuAc=1)	Not applicable.
10.	Flammability (Liquid)	Not flammable but expected to be combustible
11.	Upper/lower flammability or Explosive limits	Not available.
12.	Vapor pressure	Not available.
13.	Vapor density (air=1)	Not applicable.
14.	Relative density	0.944 (predicted)
15.	Solubility	Soluble in water (>=10 g/100 mL at 22 ºC)
16.	Partition coefficient (Octonol /water)	1.6 (free base)
17.	Auto-ignition temperature	Not available.
18.	Decomposition temperature	Not available.
19.	Viscosity	Not available.
20.	Explosive property	No
21.	Oxidizing property	No

SECTION 10: STABILITY AND REACTIVITY

- **Reactivity:** No data available
- **Chemical Stability:** Stable under recommended storage condition. It is hygroscopic (absorbs moisture from the air), Air sensitive
- **Conditions to avoid:** Keep away from heat, sparks, flame, high temperature, moisture and strong oxidants.
- **Incompatible chemicals:** Strong oxidizing agents, Bases.
- **Hazardous decomposition:** Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO2), Thermal decomposition can lead to release of irritating gases and vapors, Hydrogen chloride gas
- **Hazardous Polymerization**: Not reported.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity.

RTECS # US6825000

LD50/LC50:

LD 50 =316 mg/Kg (Oral Rat)

Skin corrosion/irritation	:	Causes severe skin burns and eye damage. .
Serious eye damage/irritation	:	Causes eye damage
Respiratory or skin sensitization	:	No sensitizing effect known.
Germ cell Mutagenicity	:	No data available.

Carcinogenicity	:	Not listed by NTP, IARC and OSHA.
Reproductive toxicity	:	No data available.
STOT-single exposure	:	No data available.
STOT- repeated exposure	:	No data available .
Aspiration Hazards	:	No data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.1Ecotoxicity:

- Fathead minnow LC50: >10 ≤ 100 mg/l (estimated)
- Fathead minnow LC50 (96 hr): 68.20 mg/l(free base) (Predicted Fathead minnow LC50 from concensus method)
- Daphnia magna LC50 (48 hr): 24.71 mg/l (Free base) (Predicted Daphnia magna LC50 from consensus method)

Based on the estimated value it is expected to be harmful to aquatic organisms.

12.2. Persistence and degradability

- It is not expected to be readily biodegradable in aerobic and anaerobic conditions.

12.3. Bio accumulative potential

- BCF = 5.32 (free base) (Estimated)
- Log Kow = 1.61 (Free base) (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.

12.4. Mobility in soil

- Log Koc = 1.992 (free base) (estimated). Low sorption.
- Henry's Law Constant = 2.7 X 10-06 atm/m3 mole at 25 degrees. It is slightly volatile from aqueous bodies. (free base)
- Log Kow = 1.61 (estimated). Low potential to bioaccumulate.

12.5. 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 slightly volatile from water bodies. 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

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 /IMO/IMDG.

ADR/ RID/ DOT	IMDG	IATA
14.1. UN number		
3261	3261	3261
14.2. UN proper shipping name		
Corrosive solid, acidic, organic, n.o.s. (2-Picolylchloride Hydrochloride)	Corrosive solid, acidic, organic, n.o.s. (2-Picolylchloride Hydrochloride)	Corrosive solid, acidic, organic, n.o.s. (2-Picolylchloride Hydrochloride)
14.3. Transport hazard class(es)		
8	8	8
14.4. Packing group		
III	III	III
14.5. Environmental hazards		

Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No
No supplementary information available		

SECTION 15: REGULATORY INFORMATION

Classification as per CLP Regulation 1272/2008:

- **Hazards Class and Category**:
- Acute Toxicity-Oral (Category 4)
- Skin corrosion/ irritation (Category 1B)

Hazard Statements: H302; H314

Chemical Inventory Lists:	***Status***
TSCA:	***Not Listed***
EINECS:	***Listed***
EC Inventory	***230-149-9***
Canada(DSL/NDSL):	***Listed (DSL)***
China Catalog of Hazardous chemicals 2015	***Not Listed***
New Zealand Inventory of Chemicals (NZIoC)	***Listed***
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	***Not Listed***
China: IECSC	***Not Listed***
Australian Inventory of Chemical Substances (AICS)	***Not Listed***

US information

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

SECTION 16: OTHER INFORMATION

a) Compilation information of safety data sheet

Date of compilation	: December 24, 2008
Chemical	: 2-Picolylchloride Hydrochloride
CAS #	: 6959-47-3
File Name	: 0085Gj Ghs10 Div.3 sds 2-Picolylchloride Hydrochloride
Revision Number	: 10
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Supersedes date	: January 02, 2024

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.
- SARA= Superfund Amendments and Reauthorization Act.
- 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.
- 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.
- 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. 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)