



N-(2-Chloroethyl) Piperidine hydrochloride

Safety Data Sheet

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

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Supersedes version 0139Gj Ghs05 Div.03 sds N-(2-Chloroethyl) Piperidine hydrochloride

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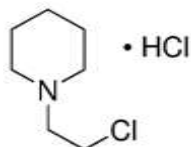
Safety Data Sheet

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

SECTION 1: Identification

1.1. Identification

PRODUCT NAME : N-(2-Chloroethyl)Piperidine hydrochloride
CAS RN : 2008-75-5
EC# : 217-920-5
SYNONYMS : 1-(2-Chloroethyl) Piperidine hydrochloride. beta-Chloroethylpiperidine hydrochloride Piperidinoethyl chloride,hydrochloride
SYSTEMATIC NAME : 1-(2-Chloroethyl) Piperidine hydrochloride
MOLECULAR FORMULA : C₇H₁₅NCl₂
STRUCTURAL FORMULA



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

- N-(2-Chloroethyl)Piperidine hydrochloride is used as pharmaceutical intermediate..

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 2)	H300
Skin corrosion (Category 1B)	H314
Germ Cell Mutagenicity (Category 2)	H341

2.2. Label Elements

GHS US Labelling
 Hazard Pictograms



GHS05-Corrosive



GHS 06-Toxic



GHS08-Health Hazard

Signal Word: *Danger!*

Hazard and precautionary statements:

Hazard Statements

- H300: Fatal if swallowed.
- H314: Causes severe skin burns and eye damage.
- H341: Suspected of causing genetic defects.

PRECAUTIONARY STATEMENTS

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- P201: Obtain special instructions before use.
- P202: Do not handle until all safety precautions have been read and understood.
- P260: Do not breathe dust/fume/gas/mist/vapours/spray.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P270: Do not eat, drink or smoke when using this product.
- P264: Wash hands thoroughly after handling.
- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P301+P330+P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
- P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P308+P313: IF exposed or concerned : Get medical advice/attention.
- P330: Rinse mouth.
- P321: Specific treatment (see supplemental information on this label).
- P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P363: Wash contaminated clothing before reuse.
- P310: Immediately call a POISON CENTER or doctor/physician.
- P405: Store locked up.
- P501: Dispose of contents/container in accordance with local/regional/national/international regulation for hazardous wastes.




2.3. Other hazards

- Substance is not classified as PBT nor as vPvB. For further details see section 12.

2.4. Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/information on ingredients

Substance	CAS No.	Purity	Hazard Classes and categories	Pictograms Signal Words	Hazard Statements
N-(2-Chloroethyl) Piperidine hydrochloride	2008-75-5	~100%	Acute toxicity, Oral (Category 2) Skin corrosion (Category 1B) Germ Cell Mutagenicity (Category 2)	GHS06 GHS05 GHS08   	H300 H314 H341

SECTION 4: First aid measures

4.1. Description of first aid measures



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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.
- **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 effects:

- **Eyes:** Severely irritating to eyes and eyelids. Causes serious eye damage. More than ordinary care should be used to prevent eye contact.
- **Skin:** Causes severe skin burns. More than ordinary care should be used to prevent skin.
- **Ingestion:** Fatal if swallowed. This material is considered to be Fatal via the oral route.
- **Inhalation:** Although data on inhalation toxicity are unavailable, it may be assumed that this material is toxic via inhalation.

Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

Chronic effects:

- To the best of our knowledge the chronic exposure of this material have not been fully investigated.

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

- **Notes to Physician:** Treat symptomatically

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media.

- *Appropriate extinguishing media:* Dry chemical powder, carbon dioxide, dry sand and alcohol resistant foam.

5.2. Special hazards arising from the substance or mixture.

- Toxic vapors may be released on thermal decomposition including nitrogen oxides, carbon monoxide carbon di-oxide, Hydrochloride gas and irritating and toxic fumes.
- High vapor concentration may result in an explosion hazard.
- Vapors are heavier than air. May travel considerable distance from source and flashback.

5.3. Advice for firefighters

- 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).
- Report any run-off of firewater's contaminated with this chemical as per local and federal procedures applicable.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures.

6.1.1 For non-emergency personnel

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

6.1.2 For emergency personnel

- Wear protective clothing, full boots, impervious gloves, safety glasses and Self Contained Breathing Apparatus (SCBA), as may be deemed appropriate.
- Alert Emergency Responders and tell them location and nature of hazard.
- Shut off all possible sources of ignition and increase ventilation.
- Stop leaks if possible.
- Clean up all spills immediately following relevant Standard Operating Procedures.
- Avoid breathing vapors and contact with skin and eyes.



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6.2. Environmental precautions.

- Clean up all spills immediately following relevant Standard Operating Procedures.
- Inform authorities in event of contamination of any public sewers, drains or water bodies.
- Wipe up.
- 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.

6.3. Methods and material for containment and cleaning up.

- Clean up all tools and equipment.
- Decontaminate all equipment.

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 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.

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end use(s)

- N-(2-Chloroethyl)Piperidine hydrochloride is used as pharmaceutical intermediate.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

8.1.1 Exposure Limits Values

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
N-(2-Chloroethyl)Piperidinehydrochloride	Not available	Not available	Not available

8.1.2 Exposure Limits (International):

- Not available.

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

- DNEL and PNEC data not available.

8.2. Exposure controls

8.2.1 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.

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.
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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES



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9.1. Information on basic physical and chemical properties.

Sr.No.	Parameter	Typical value
1.	Appearance	White to beige colour solid
2.	Odor	Odour pungent acid
3.	Odor Threshold	Not available
4.	pH	4-5(2% aqueous solution)
5.	Melting point/Freezing point	228-234°C
6.	Boiling Point	Not available
7.	Flash point	Not available
8.	Evaporation rate (n-BuAc=1)	Not available
9.	Flammability	Non Flammable
10.	Upper/lower flammability or Explosive limits	Not available
11.	Vapor pressure	Not available
12.	Vapor density (air=1)	Not available
13.	Relative density/Bulk Density	0.55 to 0.6 g/ cm ³
14.	Solubility	Soluble in water
15.	Partition coefficient : n-(Octanol / water)	2.14
16.	Auto-ignition temperature	>350 °C / >449.6 °F
17.	Decomposition temperature	Not available
18.	Viscosity	Not available
19.	Explosive property	No
20.	Corrosive Material	Yes
21.	Oxidizing property	Not available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

- N-(2-Chloroethyl) Piperidine hydrochloride is white to beige colour solid like pungent acidic odour. It is 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

- Keep away from High temperature, mechanical shock, incompatible materials, ignition sources, excess heat, and moisture. Avoid static discharge and uncontrolled exposure to high temperatures.

10.5. Incompatible materials



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- Strong Oxidizing agents and base.

10.6. Hazardous decomposition products

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

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

- a) **Acute toxicity**
LD50 Oral (Rat): 17 mg/kg
- b) **Skin corrosion/irritation**
 - Causes severe skin burns.
- c) **Serious eye damage/irritation**
 - Causes eye damage.
- d) **Respiratory or skin sensitization**
 - No data is available.
- e) **Germ cell Mutagenicity**
 - Possible risk of irreversible effects
 - TYPE OF TEST : Unscheduled DNA synthesis
 - TEST SYSTEM : Rodent - rat Liver
 - TYPE OF TEST : Mutation in mammalian somatic cells
 - TEST SYSTEM : Rodent - mouse Lymphocyte
- f) **Carcinogenicity**
 - No data is available
- 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.

Additional Information

RTECS: TM6482500

Spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.1 Ecotoxicity:

- Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - > 100 mg/l - 96 h

12.2. Persistence and degradability

- Not readily biodegradable.

12.3. Bio accumulative potential

- Not data available.

12.4. Mobility in soil (Estimated)

- Not data available.

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:

- No appreciable bio-accumulation potential is to be expected. Not readily bio-degradable. 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.



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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.

S.No	Agency	UN Number	Proper Shipping name	Hazard Class	Packing Group
Land Transport	US DOT	UN 2928	Toxic Solid, Corrosive Organic, N.O.S. (N-(2-Chloroethyl) Piperidine hydrochloride).	6.1(8)	II
Maritime Transport	IMDG	UN 2928	Toxic Solid, Corrosive Organic, N.O.S. (N-(2-Chloroethyl) Piperidine hydrochloride).	6.1(8)	II
Air Transport	IATA	UN 2928	Toxic Solid, Corrosive Organic, N.O.S. (N-(2-Chloroethyl) Piperidine hydrochloride).	6.1(8)	II
Hazard Label		Environmental Hazard		 	

Environmental hazards:

- Marine pollutant : No

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 tox. Oral-Cat 2; Skin Corr- Cat 1B; Germ Cell Mutagenicity Cat. 2
- Hazard Statements:** H300; H314; H341

US information

<u>Chemical Inventory Lists:</u>	<u>Status</u>
TSCA:	Not listed
EINECS:	217-920-5
Canada(DSL/NDSL):	Not Listed
Japan:	Listed
Korea:	Not Listed
Australia:	Not listed
China: IECSC	Not listed
New Zealand (NZIoC)	Listed



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Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Listed
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SECTION 16: OTHER INFORMATION

(a) Compilation information of safety data sheet

Chemical: N-(2-Chloroethyl) Piperidine hydrochloride

CAS #: 2008-75-5

File Name: 0139Gj Ghs06 Div.03 sds N-(2-Chloroethyl) Piperidine hydrochloride

Revision Number: 06

Date of Issue of SDS: April 04, 2024

Revision Due Date: March 2027

(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
- 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

Internet

- RTECS

(d) List of Risk Phrases, Hazard statements, safety Phrases and/or precautionary statements.

Hazards Statements	<ul style="list-style-type: none"> • H300: Fatal if swallowed. • H314: Causes severe skin burns and eye damage. • H341: Suspected of causing genetic defects.
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Precautionary Statements	<ul style="list-style-type: none">P201, P202, P260: P280: P270: P264: P305+P351+P338: P303+P361+P353: P301+P330+P331: P304+P340: P308+P313; P330: P321: P301+P310:P363: P310: P405:P501
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Company's Declaration:

Information contained in this SDS is believed to be correct but no representation, guarantee or warranties of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. This SDS shall be used as a guide only. Jubilant Ingrevia Limited makes no warranties expressed or implied of the adequacy of this document for any particular purpose.

(End of Safety Data Sheet)