



Safety Data Sheet

As per Globally Harmonized System (GHS)

Product Identification: Piperidine Hydrochloride 0285Gj Ghs07 Div.3 sds Piperidine Hydrochloride

Date of issue: January 02, 2024

Date of Compilation : October 08, 2013
Date of Revision : January 02, 2024
Due Date of Revision : December, 2026
Revision Number : 07
Version Number : 0285Gj Ghs07 Div.3 sds Piperidine Hydrochloride
Supersedes date : February 19, 2021
Supersedes version : 0285Gj Ghs06 Div.3 sds Piperidine Hydrochloride



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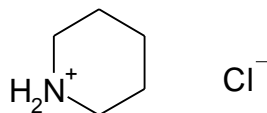
Product Identification: Piperidine Hydrochloride 0285Gj Ghs07 Div.3 sds Piperidine Hydrochloride

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SECTION 1.: IDENTIFICATION

PRODUCT NAME Piperidine hydrochloride
CAS RN 6091-44-7
EC# 228-033-8
SYNONYM Piperidinium chloride; Piperidine hydrochloride
SYSTEMATIC NAME Piperidine hydrochloride
MOLECULAR FORMULA C₅H₁₁N.HCl

STRUCTURAL FORMULA



FACTORY & REGISTERED OFFICE:

Jubilant Ingrevia Limited
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HEAD OFFICE:

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Email: support@jubl.com
Website: www.jubilantingrevia.com

Emergency telephone:

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

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Product Uses:

- Piperidine hydrochloride is used an intermediate in the manufacture of active pharmaceutical ingredients like anti Parkinson agent Biperiden; anti depressant agent Clozapamine hydrochloride and muscle relaxant tolperisone.

SECTION 2: HAZARDS IDENTIFICATION

GHS CLASSIFICATION

Acute toxicity Oral: Category 3

Skin corrosion / irritation: Category 2

Serious eye damage/eye irritation: Category 2



Hazard Pictogram: GHS 06

Signal Word: Danger!

Hazard and precautionary statements:

Hazard Statements

- H301: Toxic if swallowed.
- H315: Causes skin irritation.
- H319: Causes serious eye irritation.

PRECAUTIONARY STATEMENTS

Prevention

- P264: Wash hands thoroughly after handling.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P270: Do not eat, drink or smoke when using this product.

Response

- P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P330: Rinse mouth.
- P302+352: IF ON SKIN: Wash with plenty of soap and water.
- P332+313: If skin irritation occurs: Get medical advice/attention.
- 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.

Storage

- P405: Store locked up.

Disposal

- P501: Dispose of contents/container to local/regional/national/international regulations.



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SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Sr.No.	Chemical	CAS #	EC#	Purity
1.	Piperidine hydrochloride	6091-44-7	228-033-8	>98%

SECTION 4: FIRST AID MEASURES

Key symptoms

Acute effects:

- It is toxic if swallowed and causes serious eye irritation and skin irritation. Convulsions, ataxia, cyanosis, respiratory depression and body temperature decrease have been reported.

Chronic effects:

- It may cause digestive tract irritation.

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. INDUCE VOMITING by sticking finger in throat. 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

Flash Point: 100 °C

Flammability: Non combustible material.

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. 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.



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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.
- 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.

Unusual fire and explosion hazard:

- Toxic vapors may be released on thermal decomposition including nitrogen oxides, carbon monoxide and Carbon di-oxide, cyanide and irritating and toxic fumes of HCl gas.
- 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

Minor Spills

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



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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 in lock up.
- Store at ambient temperature in a dry, well ventilated place
- Store away from incompatible materials.

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Exposure Limits Values

Chemical name	STEL	NIOSH	ACGIH	OSHA
Piperidine hydrochloride	Not available	Not available	Not available	Not available

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 and clothing 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.



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- **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.

General Industrial hygiene:

- Immediately change contaminated clothing.
- Apply skin protective barrier cream.
- Wash hands and face after working with the substance.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

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

Sr.No.	Parameter	Typical value
1.	Appearance	White crystalline powder.
2.	Odor	Characteristic odor.
3.	Odor Threshold	Not Available
4.	pH	Not Available
5.	Melting point/Freezing point	245-248°C
6.	Boiling Point	192-194 °C @760 mm Hg
7.	Flash point	>100 ⁰ C (212 ⁰ F)
8.	Evaporation rate (n-BuAc=1)	Not available
9.	Flammability	Non combustible
10.	Upper/lower flammability or Explosive limits	Not available
11.	Vapor pressure	63.66 mm Hg @37.8 ⁰ C
12.	Vapor density (air=1)	Not available
13.	Relative density	2.94



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14.	Solubility	Miscible in water
15.	Partition coefficient : n- (Octonol / water)	0.84 (estimated)
16.	Auto-ignition temperature	Not available
17.	Decomposition temperature	Not available
18.	Viscosity	Not available
19.	Explosive property	No
20.	Oxidizing property	No

SECTION 10: STABILITY AND REACTIVITY

- **Stability:** Stable under normal conditions temperature and pressures.
- **Conditions to avoid:** Keep away from High temperature, mechanical shock, incompatible materials, ignition sources, flame, excess heat.
- **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 expected.

SECTION 11: TOXICOLOGICAL INFORMATION

a) Acute toxicity

- It is toxic if swallowed and causes eye and skin irritation. It also causes respiratory tract irritation. Convulsions, ataxia, cyanosis, respiratory depression and body temperature decrease have been reported.

RTECS#: TN0400000

- **Oral Rat LD₅₀** : 133mg/kg
(Ref.: "Psychotropic drugs and related compounds", 2nd Ed., Usdin& Elron, 1972, page 289)
- **Intraperitoneal Mouse LD₅₀** : 330 mg/kg
Effects: Behavioral convulsion or effect on seizure threshold. Behavioral ataxia. Lungs, Thorax or respiration: cyanosis.
Ref.: Japanese J.of Phramacology Vol 17, pg 475, 1967.
- **Subcutaneous Mouse LD_{Lo}**: 657 mg/kg



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Effects: Nervous system: Other (Direct) Parasympathomimetic-Lungs, Thorax or respiration-cyanosis, Nutritional and gross metabolic-body temperature decrease.

Ref.: Archiv fuer Experimentelle Pathologie and Pharmakologie, Vol 50, p 199, 1903.

b) Skin corrosion/irritation

- Causes skin irritation.

c) Serious eye damage/irritation

- Causes serious eye irritation.

d) Respiratory or skin sensitization

- No data is available.

e) Germ cell Mutagenicity

- No data is available.

f) Carcinogenicity

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

g) Reproductive toxicity

- No data is available.

h) STOT-single exposure

- Causes irritation to respiratory system.

i) STOT- repeated exposure

- No data available.

j) Aspiration Hazards

- No data available.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity :

Ecotoxicity (Estimated)

- The ecological profile of this chemical is not available. Do not dispose into environmental bodies.

Persistence and degradability

- It is expected to be biodegradable in aerobic and anaerobic conditions.

Bio accumulative potential

- Log BCF = 3.162
- Log Kow = 0.84

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

Mobility in soil

- Log Koc = 1.974 (predicted). Low absorption in soil.

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- Henry's Law constant = 4.45×10^{-6} atm-m³/mole. Slightly volatile from aqueous bodies
- Log Kow = 0.84. Low potential to bio accumulate.

Other adverse effects.

- Environment Fate:**


Based on environmental modeling, it is estimated to have low absorption in soil and is slightly volatile from water. It is not expected to bio accumulate in the environment. Though it is not chronically toxic to fish, it is recommended that it should not be disposed in the water bodies as it may harm aquatic organism.

SECTION 13: DISPOSAL CONSIDERATIONS

- 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.

S.No	Agency	UN Number	Proper Shipping name	Hazard Class	Packing Group
Land Transport	ADR/RID	UN 2811	Toxic Solid Organic, N.O.S. (Piperidine Hydrochloride)	6(6.1)	III
Maritime Transport	IMDG	UN 2811	Toxic Solid Organic, N.O.S. (Piperidine Hydrochloride)	6(6.1)	III
Air Transport	IATA	UN 2811	Toxic Solid Organic, N.O.S. (Piperidine Hydrochloride)	6(6.1)	III
Hazard Label		Toxic			

Environmental hazards:



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- Marine pollutant: No

SECTION 15: REGULATORY INFORMATION

Classification as per CLP Regulation 1272/2008:

- **Hazards Class and Category:** Acute tox Oral Cat 3; Skin irrt Cat.2; Eye irri. Cat 2
- **Hazard Statements:** H301; H315; H319

U.S Information:

Chemical Inventory Lists:	Status
TSCA:	Listed- (Active)
EINECS:	228-033-8
Canada(DSL/NDSL):	Listed/NDSL
Japan:	Not Listed
Korea:	Not Listed
Australia:	Not Listed
China: IECSC	Listed
Taiwan	Listed
New Zealand	Listed
Philippines	Listed

US information

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

Piperidine Hydrochloride is not listed

SARA 302/304 : Piperidine Hydrochloride is not listed

SARA 311/312 : See section 2 for more information

California Prop. 65: Piperidine Hydrochloride is not listed

CAA (Clean Air Act): Piperidine Hydrochloride is not listed

CWA (Clean Water Act): Piperidine Hydrochloride 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:

Piperidine Hydrochloride is not listed



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SECTION 16: OTHER INFORMATION

Compilation information of safety data sheet

Chemical: Piperidine Hydrochloride.

CAS #: 6091-44-7

File Name: 0285Gj Ghs07 Div.3 sds Piperidine Hydrochloride

Revision Number: 07

Date of Issue of SDS: January 02, 2024

Revision Due Date: December, 2026

(a) 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.



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- 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.

(b) 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

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)