



## 4-(Hydroxymethyl)piperidine Safety Data Sheet

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

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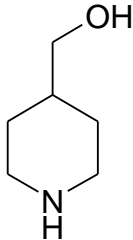
Supersedes version : 0195Gj Ghs07 Div.3 sds 4-(Hydroxymethyl)piperidine

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

#### 1.1 Product Identifier

<b>PRODUCT NAME</b>	4-(Hydroxymethyl)piperidine
<b>CAS RN</b>	6457-49-4
<b>EC#</b>	613-624-9
<b>SYNONYMS</b>	4-Piperidylmethanol ;4-Piperidinemethanol,(piperidin-4-yl)methanol
<b>SYSTEMATIC NAME</b>	(4-Hydroxymethyl) piperidine
<b>MOLECULAR FORMULA</b>	C <sub>6</sub> H <sub>13</sub> NO
<b>STRUCTURAL FORMULA</b>	

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

**Relevant identified uses:** (4-Hydroxymethyl) piperidine is used as an intermediate in the manufacture of Active Pharmaceutical Ingredients.

**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](mailto:support@jubl.com) -

[www.jubilantingrevia.com](http://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

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### GHS CLASSIFICATION

Skin corrosion / irritant: Category 1

Serious eye damage/eye irritant: Category 1

### 2.2 Label Elements

**Pictograms: GHS05**



Corrosion

**Signal word:** Danger!

### Hazard and Precautionary Statements:

#### HAZARD AND PRECAUTIONARY STATEMENTS:

##### HAZARD STATEMENTS

- H314: Causes severe skin burns and eye damage.

##### PRECAUTIONARY STATEMENTS

- P260: Do not breathe dust/fume/gas/mist/vapours/spray
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P264: Wash hands thoroughly after handling.
- P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303+361+353: 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.
- P320: Specific treatment is urgent.
- P405: Store locked up.
- P501: Dispose of contents/container to local/regional/national/international regulations.

### 2.3 Other Hazards

Not known.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Substance	CAS Number	EC Number	Assay/Purity
4-(Hydroxymethyl)piperidine	6457-49-4	613-624-9	>99%



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### 3.2 Mixtures

- Not applicable.

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures:

- **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. 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. Do NOT induce vomiting by use of emetics. Seek medical attention. 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.

### 4.2. Most important symptoms and effects, both acute and delayed:

#### **Acute effects:**

- 4-(Hydroxymethyl)piperidine causes severe skin burns , and serious eye damage.

#### **Chronic effects:**

- Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.

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

**Note to physicians:** No specific antidote. Treat symptomatically.

## SECTION 5: FIRE-FIGHTING MEASURES

### 5.1 : Extinguishing media

- **Suitable extinguishing media:** Dry chemical powder, chemical foam, and alcohol resistant foam. Do not use water jet or fog (spray) to extinguish. Water sprays can be effective in cooling down the fire-exposed containers and knocking down the vapors. Water jets may be used to flush spills away and dilute the same to non-flammable mixtures.

### 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-



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oxide, cyanide 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) 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.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1 : Personal precautions, protective equipment and emergency procedures

**Personal precautions:** Evacuate personnel to safe areas. Control access to area. Use personal protective equipment. Local authorities should be advised if significant spillages cannot be contained.

### 6.2 : Environmental precautions

Prevent further leakage or spillage if safe to do so. Use appropriate container to avoid environmental contamination. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained. If the product contaminates rivers and lakes or drains inform respective authorities. If the spill area is porous, the contaminated material must be collected for subsequent treatment or disposal.

### 6.3 : Methods and materials for containment and cleaning up

- Clean up all spills immediately following relevant Standard Operating Procedures.
- Avoid breathing vapors and contact with skin and eyes.
- 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.



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- Clean up all tools and equipment.
- Inform authorities in event of contamination of any public sewers, drains or water bodies.

### 6.4 : Reference to other sections

Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

## SECTION 7: HANDLING AND STORAGE

### 7.1 : Precautions for safe handling

#### 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.

### 7.2 : Storage

- 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)

- Not available

## SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 : Control parameters

- This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

### : Exposure Limits Values

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
4-(Hydroxymethyl)piperidine	None listed	None listed	None listed

### 8.2 : Exposure 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.



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- **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.

- **Eyes:** Use goggles and/or 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.

- **Hands:**

- In full Contact:**

- Glove material: Butyl rubber
    - Layer thickness: 0.70 mm
    - Breakthrough Time: >480 Min

- In Splash Contact:**

- Glove material: Nitrile Rubber
    - Layer thickness: 0.40 mm
    - Breakthrough Time: >120 Min

**General Hygiene and general comments:**

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

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1 : Information on basic physical and chemical properties.

Sr.No.	Parameter	Typical value
1	Appearance	White solid
2	Odor	Characteristic odor
3	Odor Threshold	Not available
4	Melting point	55-59 °C
6	Boiling point	118-120 °C at 13hpa
7	Flash point	110 °C(230°F )
8	Evaporation rate (n-BuAc=1)	Not available
9	Explosive limits	Not available
10	Vapor pressure	Not available

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11	Relative density (air=1)	Not available
12	Specific gravity (water=1)	0.997
13	Solubility	Soluble in water
14	pH	11.5 to 12.0 (10% aqueous solution)
15	Log Kow (octanol/water)	0.14
16	Auto-ignition temperature	Not available
17	Decomposition temperature	Not available
18	Viscosity	Not available
19	Molecular Weight	115.17
20	pKa (@25°C)	Not available
22	Oxidizer	No
23	Corrosivity	No
24	Explosive material	No

### 9.2 : Other information

- Not available

## SECTION 10: STABILITY AND REACTIVITY

**10.1 Stability:** The product is stable under normal temperature and pressures. Hygroscopic

**10.2 Conditions to avoid:** Keep away from heat, sparks, flame, high temperature and incompatible chemicals and moisture.

**10.3 Incompatible materials:** Strong oxidizing agents, Strong Acids

**10.4 Hazardous decomposition products:** Toxic vapors may be released on thermal decomposition including nitrogen oxides, carbon monoxide carbon di-oxide, cyanide irritating and toxic fumes.

**10.5 Possibility of hazardous reactions:** Hazardous Polymerization: Not reported.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1 : Information on toxicological effects

#### Acute Toxicity:

Oral rat LD<sub>50</sub>: 1199.02 mg/kg (Predicted Oral rat LD50 for 6457-49-4 from Consensus method)

- **RTECS#:** Not listed.
  - Skin corrosion/irritation**
    - It causes skin burns and skin irritation.
  - Serious eye damage/irritation**
    - It causes serious eye damage.
  - Respiratory or skin sensitization**



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- No data is available.
- d) Germ cell Mutagenicity**
  - No data is available.
- e) Carcinogenicity**
  - Not listed by NTP, IARC and OSHA.
  - Not present on the EU CMR list.
  - According to information presently available 4-(Hydroxymethyl)piperidine 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

#### 12.1 : Toxicity

##### Ecotoxicity:

- Fathead minnow LC<sub>50</sub> (96 hr): 1063.93 mg/L (Predicted Fathead minnow LC<sub>50</sub> (96 hr) for 6457-49-4 from Consensus method)
- Daphnia magna LC<sub>50</sub> (48 hr) : 76.50 mg/L (Predicted Daphnia magna LC<sub>50</sub> (48 hr) for 6457-49-4 from Consensus method)

#### 12.2 : Persistence and degradability

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

#### 12.3 : Bio accumulative potential

- BCF = 3.162
- Log Kow = 0.14

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

#### 12.4 : Mobility in Soil

- Log Koc= 0.906 (estimated). Negligible sorption.
- Henry's Law Constant 8.29E-011 atm-m<sup>3</sup>/mole at 25 degrees. It is non-volatile from aqueous bodies.
- Log Kow= 0.14 (estimated). Negligible potential to bio accumulate.

#### 12.5 : Other adverse effects

- Results of PBT and vPvB assessment: Not fulfilling vPvB (very persistent, very bioaccumulative) criteria.

### SECTION 13: DISPOSAL CONSIDERATIONS

#### 13.1 : Disposal of waste

##### 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.

### 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 3259	AMINES, SOLID, CORROSIVE, N.O.S., 4-(Hydroxymethyl)piperidine	8	II
Maritime Transport	IMDG	UN 3259	AMINES, SOLID, CORROSIVE, N.O.S., 4-(Hydroxymethyl)piperidine	8	II
Air Transport	IATA	UN 3259	AMINES, SOLID, CORROSIVE, N.O.S., 4-(Hydroxymethyl)piperidine	8	II
Hazard Label		Corrosive			

### Environmental hazards:

- Marine pollutant: No.

### SECTION 15: REGULATORY INFORMATION

#### Classification as per CLP Regulation 1272/2008:

- **Hazards Class and Category:** Skin corrosion category 1, Eye irritation Category 1
- **Hazard Statements:** H314

Chemical Inventory Lists:	Status
TSCA:	Not Listed
EC Inventory	Listed
Canada(DSL/NDSL):	Not Listed
Japan:	5-3729
Korea:	Listed
Australia:	Not listed
China: IECSC	Not listed

#### Indian Regulatory Information

As per the requirements of Central motor Vehicle Rule-1989 Statutory Provisions (Rules)

- R-129 : Transportation of Hazardous Goods Nature
- R-137 : Display of Class Labels

#### US information

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

4-(Hydroxymethyl)piperidine is not listed

SARA 302/304 : 4-(Hydroxymethyl)piperidine is not listed



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SARA 311/312 : See section 2 for more information

California Prop. 65: 4-(Hydroxymethyl)piperidine is not listed

CAA (Clean Air Act): 4-(Hydroxymethyl)piperidine is not listed

CWA (Clean Water Act): 4-(Hydroxymethyl)piperidine 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: 4-(Hydroxymethyl)piperidine is not listed

### SECTION 16: OTHER INFORMATION

#### a) : Compilation information of safety data sheet

**Chemical:** 4-(Hydroxymethyl)piperidine

**CAS #:** 6457-49-4

**File Name:** 0195Gj Ghs08 Div.3 sds 4-(Hydroxymethyl)piperidine

**Revision Number:** 08

**Date of Revision:** March 12, 2024

**Revision Due Date:** February, 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.

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- 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

### d) List of hazard statements

Hazards Statements
<ul style="list-style-type: none"><li>• H314: Causes severe skin burns and eye damage.</li></ul>



#### 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)