



2,3-Lutidine

Safety Data Sheet

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

Date of Compilation : May 24, 2012

Date of Revision : February 08, 2024

Revision due date : January, 2027

Revision Number : 17

Version Name : 0005Gj Ghs17 Div.3 sds 2,3-Lutidine

Supersedes date : January 02, 2024

Supersedes version : 0005Gj Ghs16 Div.3 sds 2,3-Lutidine

2,3-Lutidine

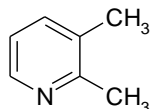
Safety Data Sheet

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

1.1 Product identifier

Product identification : 2,3-Lutidine
 CAS RN : 583-61-9
 EC# : 209-514-1
 Trade name : 2,3-Lutidine
 Systematic Name : 2,3-Dimethylpyridine
 Synonyms : 2,3-Dimethylpyridine, AI3-24280
 Molecular Formula : C₇H₉N
 Structural Formula:



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

1.2.1. Relevant identified uses

2,3-Lutidine is used as an intermediate in the pharmaceutical and agrochemical industry.

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: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Flammable Liquid: Category 3	H226
Acute toxicity (oral), Category 4	H302
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation: Category 1	H318
Specific target organ toxicity — Single Exposure (Respiratory tract irritation) : Category 3	H335

2.2. Label elements

GHS-US classification



Pictograms:

GHS 02-Flammable GHS05-Corrosive GHS 07-Exclamation mark

Signal word: Danger!

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Hazard and precautionary statements:

Hazard Statements

- H226 Flammable liquid and vapor.
- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H335 May cause respiratory irritation

PRECAUTIONARY STATEMENTS

- P261: Avoid breathing Dust/fume/gas/mist/vapour/spray.
- P271: Use only outdoors or only well ventilated area.
- P264: Wash hands thoroughly after handling.
- P280: Wear protective gloves/clothing and eye/face protection.
- P210: Keep away from heat/sparks/open flame– No smoking.
- P233: Keep container tightly closed.
- P240: Ground /bond container and receiving equipments.
- P241: Use explosion-proof electrical/ventilating/ lighting/equipment.
- P242: Use only non-sparking tools.
- P243: Take precautionary measures against static discharge.
- P270: Do not eat, drink or smoke when using this product.
- P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- P330: Rinse mouth
- P302+P352: IF ON SKIN: Wash with plenty of soap and water.
- P332+P313: If skin irritation occurs: Get medical advice/attention.
- P362: Take off contaminated clothing and wash before reuse.
- P310: Immediately call a POISON CENTER or doctor/physician.
- P305+P351+P338: IF IN EYES: Rinse cautiously 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.
- P304+P340: IF INHALED: Remove a victim to fresh air and keep at rest in a position comfortable for breathing.
- P303+P361+P353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
- P370+P378: In case of fire, use appropriate media as specified by the manufacturer for extinction.
- P403+P233: Store in a well ventilated place. Keep container tightly closed.
- P405: Store locked up.
- P501: Dispose of contents/container to local/regional/national/international regulations.

2.3 Other Hazards

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

SECTION 3 : Composition/information on ingredients

3.1 Substances

Substance	CAS No.	EINECS No.	Purity
2,3-Lutidine	583-61-9	209-514-1	>98%

3.2 Mixtures

None

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

- **Eye Contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
- **Skin Contact:** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Obtain medical attention.



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- **Inhalation:** Remove from exposure, lie down. Move to fresh air. If not breathing, give artificial respiration. Obtain medical attention.
- **Ingestion:** Clean mouth with water. Get medical attention. Most important symptoms and effects

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

Symptoms/injuries after inhalation : May cause respiratory irritation.

Symptoms/injuries after skin contact : Causes skin irritation.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : Harmful if swallowed.

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

- Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

- For small (incipient) fires, use media such as "alcohol" foam, dry chemical or water applied ineffective. Cool all affected containers with flooding.

5.2. Special hazards arising from the substance or mixture

- Flammable. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Vapors may form explosive mixtures with air.

5.3. Advice for firefighters

- 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.

- Use personal protective equipment.
- Avoid breathing vapors, mist or gas.
- Ensure adequate ventilation.
- Remove all sources of ignition.
- Evacuate personnel to safe areas.
- Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
- Warn unnecessary personnel to move away.
- Stop leak if you can do it without risk.
- Isolate the hazard area and deny entry to unnecessary and unprotected personnel

6.2. Environmental precautions.

- Keep away from living quarters. Prevent further leakage or spillage if safe to do so. Water runoff can cause environmental damage. Prevent entry into sewers, basements or confined areas; dike if needed.

6.3. Methods and material for containment and cleaning up.

- ELIMINATE all ignition sources (no smoking, flares, sparks, or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Stop leak if without risk.
- Ventilate the area.
- Absorb with an inert material and put the spilled material in an appropriate waste disposal container.
- Use clean non-sparking tools to collect absorbed material.

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

- Keep away from heat and sources of ignition.



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- Use explosion-proof equipment.
- Use only non-sparking hand tool when handling this product.
- Ground all equipment containing material.
- Take measures to prevent buildup of electrostatic charge.
- Good general ventilation should be sufficient to control airborne levels.
- Keep container dry. Handle and open container with care.
- Wear suitable protective clothing, gloves and eye/face protection.
- When using do not eat, drink, or smoke.
- Keep away from sources of ignition.
- Do not breathe vapor or mist. Do not ingest.
- Wash thoroughly after handling.
- Ground and secure containers when dispensing or pouring product.
- Avoid contact with incompatible materials.
- Avoid contact with skin and eyes.
- 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

- Keep containers tightly closed at ambient temperature in a dry and well-ventilated place.
- Keep away from sources of ignition.
- Store and use away from heat, sparks, open flame, or any other ignition source.
- Keep away from incompatibles.
- Containers which are opened must be carefully resealed and kept upright to prevent leakage.
- Avoid prolonged storage periods. Store under inert gas (e.g. Argon)
- Keep only in original container.

7.3. Specific end use(s)

- It is used as an intermediate in the pharmaceutical industries, particularly in the production of antihistamines and piroxicam. It is also used as an intermediate in the agrochemical industries.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters:

8.1.1 Exposure Limits Values

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
2,3-Lutidine	None listed	None listed	None listed

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.



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SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties.

Sr.No.	Parameter	Typical value
1.	Appearance	Clear, colorless liquid.
2.	Odor	Characteristic odor.
3.	Odor Threshold	Not available
4.	pH	Alkaline
5.	Melting point/Freezing point	-17°C
6.	Boiling Point	161°C
7.	Flash point	50°C
8.	Evaporation rate (n-BuAc=1)	Not available
9.	Flammability	Flammable
10.	Upper/lower flammability or Explosive limits	Not available
11.	Vapor pressure	Not available.
12.	Vapor density (air=1)	3.7
13.	Relative density	0.9500 gm/cm ³
14.	Solubility	Soluble
15.	Partition coefficient : n-(Octonol / water)	1.708
16.	Auto-ignition temperature	530 °C
17.	Decomposition temperature	Not available
18.	Viscosity	Not available
19.	Explosive property	No
20.	Oxidizing property	No

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

- No data available

10.2. Chemical stability

- Stable under normal conditions of temperature and pressure.

10.3. Possibility of hazardous reactions

- Hazardous Polymerization: Not reported.

10.4. Conditions to avoid

- Keep away from Incompatible materials, ignition sources, excess heat, strong acids, strong oxidants, exposure to moist air or water.

10.5. Incompatible materials

- Strong oxidizing agents, acids.

10.6. Hazardous decomposition products

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

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

a) Acute toxicity

- 2,3-Lutidine is irritating to skin and respiratory system. It causes serious eye irritation also.
- RTECS#: Not listed.
- LC50/LD50: 384mg/kg(rat) (Predicted oral LD 50 by consensus method) (TEST Tool)

b) Skin corrosion/irritation

- Causes skin irritation.

c) Serious eye damage/irritation

- Causes serious eye damage.

d) Respiratory or skin sensitization

- No data is available.



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- 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, 2,3-Lutidine is not found to be carcinogenic.
- g) **Reproductive toxicity**
- No data is available.
- h) **STOT-single exposure**
- May cause respiratory irritation.
- i) **STOT-repeated exposure**
- No data available.
- j) **Aspiration Hazards**
- No data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

12.1.1 Ecotoxicity:

It may be chronically toxic to fish and other aquatic organisms.

- Fathead minnow LC₅₀ (96 hr) mg/L=185.87mg/l (Predicted by consensus method).
- Daphnia magna LC₅₀ (48 hr) mg/L=41.99 mg/l (Predicted by consensus method).

12.2. Persistence and degradability:

- Soluble in water, Persistence is unlikely, based on information available.

12.3. Bioaccumulative potential:

- Bioaccumulation is unlikely

12.4. Mobility in soil (Estimated):

- The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

12.5. Results of PBT and vPvB assessment

- No data available for assessment.

12.6. Other adverse effects.

- Endocrine Disruptor Information:** This product does not contain any known or suspected endocrine disruptors
- Persistent Organic Pollutant:** This product does not contain any known or suspected substance
- Ozone Depletion Potential:** This product does not contain any known or suspected substance.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

- Burn in a chemical incinerator equipped with an afterburner and scrubber.
- 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 1993	Flammable liquid, N.O.S (2,3-Lutidine)	3	III
Maritime Transport	IMDG	UN 1993	Flammable liquid, N.O.S (2,3-Lutidine)	3	III



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Air Transport	IATA	UN 1993	Flammable liquid, N.O.S (2,3-Lutidine)	3	III
Hazard Label	Flammable				

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:** Flammable Liquid: Category 3, Acute toxicity (oral), Category 4, Skin corrosion/irritation, Category 2, Serious eye damage/eye irritation: Category 1, Specific target organ toxicity — Single Exposure (Respiratory tract irritation) : Category 3
- Hazard Statements:** H226;H302;H315;H318, H335

Chemical Inventory Lists:	Status
TSCA:	Listed
EC Inventory	Listed (209-514-1)
Canada(DSL/NDSL):	Listed(NDSL)
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
Inventory of Existing and New Chemical Substances (ENCS)	Listed (MITI No. 5-712)
Japan ISHL Existing Substances List (ISHL)	Listed
China: IECSC	Not Listed
Existing Chemicals List (KECI)	Not Listed
Australian Inventory of Chemical Substances (AICS)	Listed

US information

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act): 2,3-Lutidine not listed

SARA 302/304 : 2,3-Lutidine not listed

SARA 311/312 : See section 2 for more information

California Prop. 65: 2,3-Lutidine not listed

CAA (Clean Air Act): 2,3-Lutidine not listed

CWA (Clean Water Act): 2,3-Lutidine 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: 2,3-Lutidine not listed

SECTION 16: OTHER INFORMATION

(a) Compilation information of safety data sheet

Date of compilation : May 24, 2012
Chemical : 2,3-Lutidine



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CAS # : 583-61-9
File Name : 0005Gj Ghs17 Div.3 sds 2,3-Lutidine
Revision Number : 17
Date of Issue of SDS : February 08, 2024
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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 Bioaccumulative and Toxic.
- vPvB= Very Persistent and Very Bioaccumulative.
- 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 Programm.
- IARC= International Agency for Research on Cancer.
- EPA=Environmental Protection Agency.
- TSCA= Toxic Substances Control Act.
- WHIMS= Workplace Hazardous Materials Information System.
- DSL/NDL= Domestic/Non-Domestic Substances List.
- CSR=Chemical Safety Report.
- BCF = Bio Concentration Factor.
- DNEL = Derived No Effect Level.
- REACH = Registration, Evaluation .Authorisation and Restriction of Chemicals.
- CLP = Classification, Labelling and Packaging.
- LD / LC = Lethal Doses / Lethal Concentration.
- GHS = Globally Harmonised 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

(d) List of hazard statements

Hazards Statements	
	<ul style="list-style-type: none">• H226 Flammable liquid and vapour.• H302 Harmful if swallowed.• H315 Causes skin irritation.• H318 Causes serious eye damage.• H335 May cause respiratory irritation.

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)