



2,3,5-Collidine

Safety Data Sheet

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

Date of compilation	: May 24, 2012
File Name	: 0009Bh Ghs17 Div.3 sds 2,3,5-Collidine
Revision Number	: 17
Date of Issue of SDS	: February 08, 2024
Revision Due Date	: January, 2027
Supersedes date	: February 03, 2022
Supersedes Version	: 0009Bh Ghs16 Div.3 sds 2,3,5-Collidine

2,3,5-Collidine

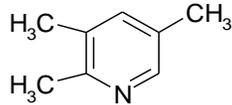
Safety Data Sheet

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

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product identification	: 2,3,5-Collidine
CAS RN	: 695-98-7
EC#	: 211-786-1
Trade name	: 2,3,5-Collidine
Systematic Name	: 2,3,5-Trimethylpyridine
Synonyms	: 2,3,5-Trimethylpyridine, Pyridine, 2,3,5-trimethyl -,alpha, beta, alpha'-Collidine
Molecular Formula	: C ₈ H ₁₁ N
Structural Formula	



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

1.2.1. Relevant identified uses

2,3,5-Collidine is used as an intermediate in the pharmaceutical industries.

Uses advised against: None

1.3. Details of the supplier of the safety data sheet

Jubilant Ingrevia Limited

FACTORY OFFICE: : Jubilant Ingrevia Limited, Unit -1, Plot No. P1-L1 within jubilant sector, Specific SEZ for Chemicals at Plot No.-5, Vilayat GIDC, Tal. Vagra, Dist. Bharuch-392012 Gujarat, India, Tel.:+91-2641-281500, 281507 Fax: +91-2641-281515
Emergency number :+91-9925236834 & +91-2641-281666

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS US Classification

Flammable liquid: Category 4	H227
Acute Toxicity-Oral: Category 4	H302
Skin corrosion / irritation: Category 2	H315
Serious eye damage/Eye irritation: Category 2	H319
Specific target organ toxicity - single exposure Category 3	H335

2.2. Label elements

GHS US Classification

Pictograms:



GHS 07-Exclamation mark



2,3,5-Collidine

Safety Data Sheet

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

Signal word: Warning!

Hazard and precautionary statements:

Hazard Statements

- H227: Combustible Liquid
- H302: Harmful if swallowed
- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H335: May cause respiratory irritation

PRECAUTIONARY STATEMENTS

- P210: Keep away from flames and hot surfaces-No smoking.P264: Wash clothes thoroughly after handling.
- P270: Do not eat, drink or smoke when using this product.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
- P271: Use only outdoors or in well ventilated place.
- 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.
- P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P312: Call a POISON CENTER or doctor/physician if you feel unwell.
- P332+P313: If skin irritation occurs: Get medical advice/attention.
- P362: Take off contaminated clothing and wash before reuse.
- 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.
- 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

Substance	CAS No.	EINECS No.	Purity	GHS US Classification
2,3,5-Collidine	695-98-7	211-786-1	99.0% (min)	Acute Toxicity-Oral: Category 4 H302 Skin corrosion / irritation: Category 2 H315 Serious eye damage/Eye irritation: Category 2 H319 Specific target organ toxicity - single exposure Category 3 H335
2,3-Lutidine	583-61-9	209-514-1	0.1% (max)	--
3,5-Lutidine	591-22-0	209-708-6	0.2% (max)	--
2,4-Lutidine	108-47-4	203-586-8	0.1% (max)	--
2,5-Lutidine	589-93-5	209-666-9	0.3% (max)	--
2,6-Lutidine	108-48-5	203-587-3	0.1% (max)	--
2,4,6-Collidine	108-75-8	203-613-3	0.2% (max)	--

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures.

- **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.



2,3,5-Collidine

Safety Data Sheet

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

- **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.

- **Acute effects:**
2,3,5-Collidine causes skin, and serious eyes irritation. It causes respiratory tract irritation also. The toxicological properties of this material have not been fully investigated.
- **Chronic effects:**
To the best of our knowledge, the chronic health effects of this product have not been fully investigated.

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

- Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. 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.

5.2. Special hazards arising from the substance or mixture.

- Toxic vapors may be released on thermal decomposition including nitrogen oxides, carbon monoxide and carbon dioxide.

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

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



2,3,5-Collidine

Safety Data Sheet

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

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

- Wear protective gloves/clothing and eye/face protection.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Launder contaminated clothing before re-use.

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 securely closed when not in use.

7.3. Specific end use(s)

- 2,3,5-Collidine is used as an intermediate in the pharmaceutical industries.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters:

8.1.1 Exposure Limits Values

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
2,3,5-Collidine	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.
- **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.
- **Hands:** Use appropriate gloves.

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	Clear, colorless liquid.
2.	Odor	Characteristic odor.
3.	Odor Threshold	Not available

2,3,5-Collidine

Safety Data Sheet

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

4.	pH	Not available
5.	Melting point/Freezing point	Not available.
6.	Boiling Point	184°C
7.	Flash point	73.9°C closed cup
8.	Evaporation rate (n-BuAc=1)	Not available
9.	Flammability	Combustible material
10.	Upper/lower flammability or Explosive limits	Not available
11.	Vapor pressure	0.795 mm Hg at 25°C
12.	Vapor density (air=1)	Not available
13.	Relative density	0.931 at 25°C
14.	Solubility	Slightly soluble in water.
15.	Partition coefficient : n-(Octanol / water)	2.45 (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

10.1. Reactivity

- 2,3,5-Collidine is clear colourless liquid like characteristic odour. It is combustible material. Reactivity of this compound is not available.

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 heat, sparks, flame, high temperature and incompatible chemicals, dust generation, u.v. light, strong oxidants, strong reducing agents and strong acids.

10.5. Incompatible materials

- Strong oxidizing agent and strong acids.

10.6. Hazardous decomposition products

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

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

a) Acute toxicity

- 2,3,5-Collidine causes skin, serious eyes and respiratory irritation. The toxicological properties of this material have not been fully investigated.

RTECS # Unlisted.

LD50 Oral Rat: 612 mg/Kg (Predicted Oral Rat LD50 from Consensus method)

b) Skin corrosion/irritation

- Causes skin irritation and causes burns.

c) Serious eye damage/irritation

- Causes eye irritation.

d) Respiratory or skin sensitization

- No data is available.

e) Germ cell Mutagenicity

- No data is available.



2,3,5-Collidine

Safety Data Sheet

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

- f) **Carcinogenicity**
- Not listed by NTP, IARC and OSHA.
 - Not present on the EU CMR list.
 - According to information presently available 2,3,5-Collidine 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:

- Fathead minnow LC₅₀ (96 hr): 103.42 mg/L (Predicted Fathead minnow LC50 (96 hr) from Consensus method)
- Low toxic effects are expected.

12.2. Persistence and degradability

- It is expected to be not readily biodegradable.

12.3. Bioaccumulative potential

- BCF = 19.1
- Log Kow = 2.45

Based on the Log Kow and Bioconcentration 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 = 2.457 (estimated). Low sorption
- Henry's Law constant: 9.48E-006 atm·m³/mole. Non-volatile from aqueous bodies.
- Log Kow = 2.45 (estimated). Negligible potential to bioaccumulate.

12.5. Results of PBT and vPvB assessment

- The substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII

12.7. 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 non-volatile from water bodies. Since this is an estimated result it is recommended that the material should be disposed into the environment. The material should not be disposed off into the sewage.

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 non-Hazardous for transport by Air/Rail/Road and Sea and thus not regulated by IATA/ICAO/ARD/RID/IMO/IMDG..

Environmental hazards

- It is expected that this chemical is not a marine pollutant and is not Harmful to the Aquatic environment.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture.

Classification (as per Regulation (EC) No 1272/2008):

- **Hazards Class and Category:** Acute Tox Cat 4, Skin Irrit. Cat.2, Eye Irrit. Cat 2, STOT-Single Cat 3
- **Hazard Statements:** H302, H315; H319, H335



2,3,5-Collidine Safety Data Sheet

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

Status in Global Chemical Inventories-

<u>Chemical Inventory Lists:</u>	<u>Status</u>
<u>TSCA:</u>	<u>Not Listed</u>
<u>EC Inventory</u>	<u>Listed</u>
<u>Canada(DSL/NDSL):</u>	<u>Not Listed</u>
<u>Taiwan Chemical Substance Inventory (TCSI)</u>	<u>Listed</u>
<u>New Zealand Inventory of Chemicals (NZIoC)</u>	<u>Not Listed</u>
<u>Philippines Inventory of Chemicals and Chemical Substances (PICCS)</u>	<u>Not Listed</u>
<u>Inventory of Existing and New Chemical Substances (ENCS)</u>	<u>Listed</u>
<u>Japan ISHL Existing Substances List (ISHL)</u>	<u>Listed</u>
<u>China: IECSC</u>	<u>Listed</u>
<u>China: Inventory of Hazardous Chemicals (2015)</u>	<u>Not Listed</u>
<u>Existing Chemicals List (KECI)</u>	<u>Listed</u>
<u>Australian Inventory of Chemical Substances (AICS)</u>	<u>Not Listed</u>

US information

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act): 2,3,5-Collidine not listed.

SARA 302/304 : 2,3,5-Collidine not listed.

SARA 311/312 : See section 2 for more information

California Prop. 65: 2,3,5-Collidine not listed.

CAA (Clean Air Act): 2,3,5-Collidine not listed.

CWA (Clean Water Act): 2,3,5-Collidine not listed.

EU Information

Water hazard class (WGK) 1, No information available

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006: 2,3,5-Collidine not listed.

SECTION 16: OTHER INFORMATION

(a) Compilation information of safety data sheet

Date of compilation : May 24, 2012
Chemical : 2,3,5-Collidine
CAS # : 695-98-7
File Name : 0009Bh Ghs17 Div.3 sds 2,3,5-Collidine
Revision Number : 17
Date of Issue of SDS : February 08, 2024
Revision Due Date : January, 2027
Supersedes date : February 03, 2022

(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.
- 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.



2,3,5-Collidine

Safety Data Sheet

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

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, 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">• H302: Harmful if swallowed.• H315: Causes skin irritation.• H319: Causes serious eye irritation.• 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 specific property of the product.

(End of Safety Data Sheet)