

2,3,5-Collidine

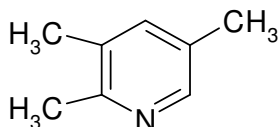
Safety Data Sheet

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

SECTION 1: Identification

1.1. Identification

PRODUCT NAME	: 2,3,5-Collidine
CAS RN	: 695-98-7
EC#	: 211-786-1
SYNONYMS	: 2,3,5-Trimethylpyridine, Pyridine, 2,3,5-trimethyl -,alpha, beta, alpha'-Collidine
SYSTEMATIC NAME	: 2,3,5-Trimethylpyridine,
MOLECULAR FORMULA	: C ₈ H ₁₁ N
STRUCTURAL FORMULA	



1.2. 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

FACTORY: Jubilant Life Sciences Ltd., 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

HEAD OFFICE: Jubilant Life Sciences Ltd., 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.jubl.com

1.4. Emergency telephone number

Emergency number :+91-9925236834 & +91-2641-281666

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Flammable Liquid: category 4
Eye damage/Irritation: Category 2B
Skin irritation: Category 2

2.2. Label Elements

Hazard Pictogram: GHS 07

Signal Word:Warning!



HAZARD AND PRECAUTIONARY STATEMENTS:

HAZARD STATEMENTS

- H227: Combustible liquid.
- H320: Causes eye irritation.
- H 315: Causes skin irritation.

PRECAUTIONARY STATEMENTS

- P210: Keep away from flames and hot surfaces-No smoking.
- P264: Wash hands thoroughly after handling.
- P280:Wear protective gloves/protective clothing/eye protection/face protection.
- P370+P378:In case of fire use ... for extinction.
- P302+P352: IF ON SKIN: Wash with plenty of soap and water.
- P321: Specific treatment reference to supplemental first aid instruction, manufacturer/supplier may specify a cleansing agent if appropriate.
- P332+P313: If skin irritation occurs: Get medical advice/attention.



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- 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+313: If eye irritation persists: Get medical advice/attention.
- P403+P235: Store in a well ventilated place. Keep cool.
- P501: Dispose of contents/container to local/regional/national/international regulations.

SECTION 3: Composition/information on ingredients

Chemical	CAS #	EC#	Purity	GHS-US classification
2,3,5-Collidine	695-98-7	211-786-1	>98%	Flammable Liquid: category 4 Eye damage/Irritation: Category 2B Skin irritation: Category 2

SECTION 4: First aid measures

4.1. Description of first aid measures

Key symptoms

- **Acute effects:**
- 2,3,5-Collidine is irritating to skin, eyes and respiratory system.

Chronic effects:

- To the best of our knowledge chronic effects of this compound have not been fully investigated.

FIRST AID:

- **Eyes:** If in eyes rinse cautiously with water for at least 15 minutes. 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.
- **Inhalation:** Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult give oxygen. 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.

SECTION 5 : FIRE-FIGHTING MEASURES

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.

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).
- Chemical is water-soluble. Report any run-off of firewater's contaminated with this chemical as per local and federal procedures applicable.
- Report any run-off of fire waters 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 cyanide.
- 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 vapors 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.



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- Wipe up.
- Decontaminate all equipment.
- Use non sparking tools.

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

7.1. Precautions for 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.
- Use non-sparking tools.

7.2. Storage

- Store in a cool, well ventilated place
- Store in a flame proof area
- Store away from incompatible materials.
- Keep only in original container.
- Keep securely closed when not in use.

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

• Exposure Limits Values

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
2,3,5-Collidine	None listed	None listed	None listed

Exposure Limits (International):

- Not available.

8.2. 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 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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For emergency situations, wear a positive pressure, pressure-demand, full face piece self-contained breathing apparatus (SCBA) or pressure-demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA,1998).

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

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	Not available
5.	Melting point/Freezing point	Not available.
6.	Boiling Point	182 °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	Not Available
12.	Vapor density (air=1)	Not available
13.	Relative density	0.931
14.	Solubility	Not available
15.	Partition coefficient : n-(Octanol / water)	0.24 (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 temperature and pressures.
- **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.
- **Incompatible materials:** Strong oxidizing agent and strong acids.
- **Hazardous decomposition:** Thermal decomposition may produce carbon monoxide and oxides of nitrogen, carbon dioxide & nitrogen, Hydrogen chloride, hydrogen cyanide and irritating and toxic fumes.
- **Hazardous Polymerization:** Not reported.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

- **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/LC50:** No data available.



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- a) **Skin corrosion/irritation**
 - Causes skin irritation and causes burns.
- b) **Serious eye damage/irritation**
 - Causes eye irritation.
- c) **Respiratory or skin sensitization**
 - Causes respiratory irritation.
- 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 2,3,5-Collidine 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:

Ecotoxicity:

- The Ecotoxicity data is not available.
- Fish ChV (estimated) = 4.7 (mg/l). Low toxic effects are expected.

Persistence and degradability

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

Bio accumulative potential

- BCF = 15
- Log Kow = 0.24

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.

Mobility in soil

- Log Koc = 2.156 (estimated). Low sorption.
- Henry's Law constant: $6.37 \times 10^{-13} \text{ atm-m}^3/\text{mole}$. Non-volatile from aqueous bodies.
- Log Kow = 0.24 (estimated). Negligible potential to bioaccumulate.

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.
- Exert extra care in igniting, as this material is combustible.
- 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 reinstates.

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 3267	Corrosive liquid, Basic organic, n.o.s (2,3,5- Trimethyl pyridine)	8	III



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Maritime Transport	IMDG	UN 3267	Corrosive liquid, Basic organic, n.o.s (2,3,5- Trimethyl pyridine)	8	III
Air Transport	IATA	UN 3267	Corrosive liquid, Basic organic, n.o.s (2,3,5- Trimethyl pyridine)	8	III
Hazard Label	Corrosive				

Environmental hazards:

- Marine pollutant:No.

SECTION 15: REGULATORY INFORMATION

- European Union Information

Classification as per CLP Regulation 1272/2008:

- **Hazards Class and Category:** Skin Irrit. Cat.2, Eye Irrit. Cat2
- **Hazard Statements:**H315;H319

Chemical Inventory Lists:	Status
TSCA:	Not listed
EINECS:	211-786-1
Canada(DSL/NDL):	Not listed
Japan:	5-715
Korea:	Present
Australia:	Not listed
China: IECSC	Not listed

US information

TSCA

- CAS# 695-98-7 is not listed on the TSCA inventory.

Health & Safety Reporting List

- None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

- None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

- None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

- None of the chemicals in this material have a SNUR under TSCA.

SARA

- Section 302 (RQ): None of the chemicals in this material have an RQ.
- Section 302 (TPQ):None of the chemicals in this product have a TPQ.
- Section 313: No chemicals are reportable under Section 313.

Clean Air Act:

- This material does not contain any hazardous air pollutants.
- This material does not contain any Class 1 Ozone depleters.
- This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

- None of the chemicals in this product are listed as Hazardous Substances under the CWA.
- None of the chemicals in this product are listed as Priority Pollutants under the CWA.
- None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

- OSHA considers none of the chemicals in this product highly hazardous.

Canada



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NDSL/DSL

- The substance is not specified on any list. There is no control measure imposed to this substance.

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 Ghs09 Div.3 sds 2,3,5-Collidine
Revision Number	: 09
Date of Issue	: December 21,2015
Revision Due Date	: November , 2017
Supersedes date	: September 21, 2015

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 Programm.
- 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

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)