



2- Acetylpyridine

Safety Data Sheet

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

Date of Compilation	: October 19, 2012
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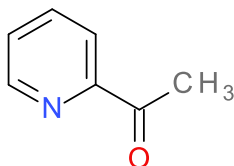
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According to federal final rule of hazard communication revised on 2012 (HazCom 2012)

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

1.1. Product identifier

Product identification	:2-Acetylpyridine
CAS RN	: 1122-62-9
EC#	: 214-355-6
Trade name	: 2-Acetylpyridine
Systematic Name	:1-pyridin-2-ylethanone.
Synonyms	: 2 -Acetylpyridine;1-(2-pyridinyl)ethanone; Methyl-2-pyridylketone;2-pyridyl methyl ketone
Molecular Formula	:C ₇ H ₇ NO
Structural Formula:	



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

1.2.1. Relevant identified uses

2-Acetylpyridine is used as a chemical intermediate in organic synthetic, pharmaceutical & agricultural chemical manufacture and as an analytical reagent. Also used as a food additive as a flavor enhancer, flavoring agent or adjuvant. Potential use as an inhalant to suppress appetite.

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

Skin corrosion/irritation: Category 2	H315
Eye damage/eye irritant: Category 2	H319
STOT-Single Exposure: Category 3	H335

2.2. Label elements

Pictograms:

GHS 07-Exclamation

Signal word: Warning!



Hazard and precautionary statements:

Jubilant Ingrevia Limited



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Hazard Statements

- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H335: May cause respiratory irritation.

PRECAUTIONARY STATEMENTS

- P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
- P264: Wash hands, eyes and face thoroughly after handling.
- P271: Use only out doors or in a well ventilated area.
- P280: Wear protective gloves/clothing and eye/face protection.
- P302+P352: IF ON SKIN: Wash with plenty of soap and water.
- P304+P340: IF INHELD: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P312: Call 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-Acetylpyridine	1122-62-9	214-355-6	> 99.5 %	Skin corrosion/irritation: Category 2 Eye damage/eye irritant: Category 2

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.
- **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. Monitor for respiratory distress. Apply artificial respiration if not breathing. Do not use mouth-to-mouth methods if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Toxic vapours may be released on thermal decomposition including nitrogen oxides, carbon monoxide and cyanide.
- **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:**
It causes irritation to skin, eyes and respiratory system.
- **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.



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- *Appropriate extinguishing media:* Dry chemical powder, carbon dioxide, and alcohol resistant foam. Water may also be used. 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.

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.
- 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).
- 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.
- Shut off leak source if possible.
- Shut off all possible sources of ignition.
- 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.
- Shut off all possible sources of ignition and increase ventilation.
- Stop leaks if possible.
- 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.

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.

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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.
- Store away from direct heat and sunlight.

7.3. Specific end use(s)

- 2-Acetylpyridine is used as a chemical intermediate in organic synthetic, pharmaceutical & agricultural chemical manufacture and as an analytical reagent. Also used as a food additive as a flavor enhancer, flavoring agent or adjuvant. Potential use as an inhalant to suppress appetite.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

8.1.1 Exposure Limits Values

Chemical name	STEL (ppm)	NIOSH	ACGIH	OSHA
2-Acetylpyridine	None available	None available	None available	None available

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.
- 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.

General Hygiene and general comments:

- Wash hands and face after working with substance.
- Immediately change contaminated clothing.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties.

Sr.No.	Parameter	Typical value
1.	Appearance	Clear colorless to slight brown liquid.
2.	Odor	Aromatic volatile.
3.	Odor Threshold	Not available
4.	pH	Not available
5.	Melting point/Freezing point	8-10°C
6.	Boiling Point	189-193°C
7.	Flash point	76°C
8.	Evaporation rate (n-BuAc=1)	Not available

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9.	Flammability	Combustible material
10.	Upper/lower flammability or Explosive limits	Not available
11.	Vapor pressure	0.481000 mmHg @ 25.00 °C.
12.	Vapor density (air=1)	Not available
13.	Relative density	1.08 g/cm3 (20 °C)
14.	Solubility	Soluble in water (18.2 g/100g @ 25C). Soluble in and acetate. Slightly soluble in carbon tetrachloride
15.	Partition coefficient : n-(Octonol / water)	0.85
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

- No data available.

10.2. Chemical stability

- Stable under normal temperature and pressures.

10.3. Possibility of hazardous reactions

- Hazardous Polymerization: Will not occur.

10.4. Conditions to avoid

- Keep away from heat, sparks, flame, high temperature and incompatible chemicals, dust generation. Not compatible with carbonyl and condensations at the methyl group.

10.5. Incompatible materials

- Especially reactive in typical methyl ketone additions to the carbonyl and condensations at the methyl group.

10.6. Hazardous decomposition products

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

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

a) Acute toxicity

- It causes skin, eyes and mucous membrane and upper respiratory tract irritation.

TOXICITY:

RTECS#: OB5310000

LD50/LC50: Oral -Rodent -rat – 2280 mg/kg

b) Skin corrosion/irritation

- It causes skin irritation.

c) Serious eye damage/irritation

- It causes eye irritation.

d) Respiratory or skin sensitization

- No data available.

e) Germ cell Mutagenicity

- 2-Acetylpyridine was presented at the December 1996 CSWG meeting and deferred pending results of the NCI Short-Term Test Program.
- The results are negative in the Ames Salmonella typhimurium assay with and without activation; weak positive response in the mouse lymphoma (ML) assay at the highest dose tested with activation; the ML test without activation is being repeated.

f) Carcinogenicity

Human Data: No epidemiological studies or case reports investigating the association of exposure to 2-acetylpyridine and cancer risk in humans were identified in the available literature.

Animal Data: No 2-year carcinogenicity studies of 2-acetylpyridine in animals were Identified in the available literature

g) Reproductive toxicity

- According to the information presently, available 2-Acetylpyridine has not been tested for its ability to affect reproduction.



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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:

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
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- It is expected to be non-toxic to the aquatic organisms.

12.2. Persistence and degradability

- It is expected to be biodegradable in aerobic and anaerobic conditions. Soluble in water, Persistence is unlikely, based on information available.

12.3. Bioaccumulative potential

- BCF = 3.2
- Log Kow = 0.85

Based on the Log Kow and Bioconcentration factor value it is expected to have low potential to concentrate in fatty tissue of fish and aquatic organisms. These results are estimated and it is recommended that this material should not be disposed into the environment.

12.4. Mobility in soil

- Log Koc= 1.767 (Estimated). Low sorption.
- Henry's Law Constant: $1.28 \times 10^{-08} \text{ atm/m}^3 \text{ mole}$ at 25 degrees. It is non- volatile from aqueous bodies.
- Log Kow= 0.85 Low potential to bio-accumulate.

12.5. Results of PBT and vPvB assessment

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

12.6. Other adverse effects.

Environmental Fate:

- Based on the environmental modeling, this material has a low potential to get absorbed in the organic matter of soil and is non-volatile from water bodies. Since this is an estimated result it is recommended that the material should not be disposed into the environment. The material should never be disposed into the sewage.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

- **Waste from Residues / Unused Products:** Waste is classified as hazardous: Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.
- **Contaminated Packaging:** Dispose of this container to hazardous or special waste collection point.
- **European Waste Catalogue (EWC):** According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.
- **Other Information:** Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

SECTION 14: TRANSPORT INFORMATION

- This substance is considered to be non- Hazardous for transport by Air/Rail/Road and Sea and thus regulated by IATA/ICAO/ARD/RID/IMO/IMDG.

Mode of Transport	Agency
Land transport	ADR/RID
Maritime Transport	IMDG



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Air Transport	IATA
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14.1. UN number

- Not applicable.

14.2. UN proper shipping name

- Not applicable.

14.3. Transport hazard class(es)

- Not applicable.

14.4. Packing group

- Not applicable.

14.5. 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:** Skin Corr.Cat2, Eye Irrit.Cat2, STOT SE Cat3
- **Hazard Statements:** H315; H319; H335

Chemical Inventory Lists	Status
TSCA:	Listed (Active)
EINECS:	200-836-8
Canada(DSL/NDL):	Listed/DSL
Japan:	2-485
Korea:	KE=00003
Australia:	Listed
China: IECSC	Listed
New Zealand	Listed
Taiwan	Listed
Philippines	Listed

US information

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

2-Acetylpyridine is not listed

SARA 302/304 : 2-Acetylpyridine is not listed

SARA 311/312 : See section 2 for more information

California Prop. 65: 2-Acetylpyridine is not listed

CAA (Clean Air Act): 2-Acetylpyridine is not listed

CWA (Clean Water Act): 2-Acetylpyridine is not listed

EU Information

Water hazard class (WGK): WGK 1 (Slightly hazardous to water)

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

SECTION 16: OTHER INFORMATION

(a) Compilation information of safety data sheet

Date of compilation : October 19, 2012
Chemical : 2-Acetylpyridine
CAS : 1122-62-9
File Name : 0592Gj Ghs09 Div.3 sds 2-Acetylpyridine
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(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
- 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

- Globally harmonized system of Classification and labelling of chemicals.
- CLP REG (regulation) (EC) no. 1272/2008, last modification by regulation (EC) no. 790/2009

(d) List of hazard statements

Hazards Statements	
	<ul style="list-style-type: none"> • 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)