



Safety Data Sheet

As per Globally Harmonized System (GHS)

Product Identification: 2-(Hydroxymethyl) pyridine

0102 A00 Div.03 sds 2-
(Hydroxymethyl) pyridine

Date of issue: September 13, 2013

SDS Code : 0102 A00 Div.03 sds 2-(Hydroxymethyl) pyridine
Date of Compilation : September 13, 2013
Date of Revision : September 13, 2013
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Supersedes date : June 25, 2013
Supersedes version : 0102C05 Div.03 sds 2-(Hydroxymethyl) pyridine



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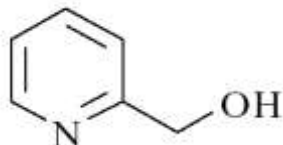
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SECTION 1.: IDENTIFICATION

PRODUCT NAME 2- (Hydroxymethyl) pyridine
CAS RN 586-98-1
EC# 209-592-7
SYNONYM Piconol;2-Pyridinemethanol;2-(Hydroxymethyl) pyridine;2-Pyridinylmethanol;2-Pyridylcarbinol;2-Pyridylmethanol;alpha-Picolyl alcohol;Pyridine-2-carbinol.
SYSTEMATIC NAME 2-Pyridinemethanol; 2-Pyridylmethanol
MOLECULAR FORMULA C₆H₇NO

STRUCTURAL FORMULA



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Product Uses:

- 2-(Hydroxymethyl)pyridine used as an intermediate in pharmaceutical industry.

SECTION 2:

HAZARDS IDENTIFICATION

Acute toxicity Oral: Category 4

Skin corrosion / irritant: Category 2

Hazard Pictogram: GHS 07

Signal Word: Warning!



HAZARD AND PRECAUTIONARY STATEMENTS:

HAZARD STATEMENTS

- H302: Harmful if swallowed.
- H315: Causes skin irritation.

PRECAUTIONARY STATEMENTS

Prevention

- P264: Wash hands thoroughly after handling.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P270: Do not eat, drink or smoke when using this product.

Response

- 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.

Disposal

- P501: Dispose of contents/container to local/regional/national/international regulations.

SECTION 3:

COMPOSITION / INFORMATION ON INGREDIENTS

Sr.No.	Chemical	CAS #	EC#	Purity
1.	2- (Hydroxymethyl) pyridine	586-98-1	209-592-7	≥99%



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SECTION 4:

FIRST AID MEASURES

Key symptoms

Acute effects:

- **Eyes:** Irritation, redness, pain, burns, loss of vision.
- **Skin:** Irritation, pain, redness, burns. Behavioral somnolence observed in test animals.
- **Ingestion:** Abdominal pain, burning sensation, diarrhea, shock or collapse, sore throat or vomiting. May include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. Exposure can cause gastrointestinal disturbance.
- **Inhalation:** Sore throat, cough, burning sensation, shortness of breath, labored breathing, headache, nausea and vomiting. Exposure can cause headache, dizziness.

Chronic effects:

- To the best of our knowledge the chemical, physical and toxicological properties of this chemical have not been thoroughly investigated. Use appropriate procedures and precautions to prevent or minimize exposure.

FIRST AID:

- **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.

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. 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.



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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).
- Report any run-off of firewater's 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.
- Wipe up.
- Decontaminate all equipment.

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.



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SECTION 7: HANDLING AND STORAGE

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.

Storage

- Store in a cool, dry and ventilated place.
- Store away from incompatible materials.
- Keep closed when not in use.

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Exposure Limits Values

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
2- (Hydroxymethyl) pyridine	Not established	Not established	Not established

Exposure Limits (International):

- Not available.

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.
- **Eyes:** Safety goggles/ Chemical Safety glasses and Face shield.



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- **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.

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	Yellow liquid
2.	Odor	Similar to pyridine
3.	Odor Threshold	Not available
4.	pH	6-8
5.	Melting point/Freezing point	-6 °C
6.	Boiling Point	112-113°C @ 16.00 mm Hg 220°C @ 760 mm Hg
7.	Flash point	117°C
8.	Evaporation rate (n-BuAc=1)	Not available
9.	Flammability	No
10.	Upper/lower flammability or	Not available



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	Explosive limits	
11.	Vapor pressure	0.026mm Hg 25°C
12.	Vapor density (air=1)	Not available
13.	Relative density	1.13g/cm
14.	Solubility	Slightly soluble in water, 41g/l
15.	Partition coefficient : n- (Octanol / water)	0.06
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 condition of temperature and pressure.
- **Conditions to avoid:** Hygroscopic. Keep away from heat, sparks, flame, high temperature and incompatible chemicals, dust generation, u.v. light, strong oxidants.
- **Incompatible chemicals:** Acids , Aldehydes , Oxidizing materials and Chloroformates.
- **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.
- **Hazardous Polymerization:** No



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SECTION 11: TOXICOLOGICAL INFORMATION

a) Acute toxicity

- 2- (Hydroxymethyl) pyridine causes skin irritation. It is harmful if swallowed.

RTECS#: UT4689000

- **Route of Administration:** - INTRAVENOUS
Species Tested: - Mouse
Dose Data: LD50 - 1 gm/kg
Toxic Effects: Details of the toxic effect not reported.
Source: PHARAT - Pharmazie. (VEB Verlag Volk und Gesundheit, Neue Gruenstr. 18, Berlin DDR-1020, Ger. Dem. Rep.) V.1- 1946 11:242, 1956
- **Route of Administration:** - ORAL
Species Tested: - Bird- -Quail
Dose Data: LD50 - 1 gm/kg
Toxic Effects: Details of the toxic effect not reported
Source: AECTCV Archives of Environmental Contamination and Toxicology. (Springer-Verlag New York, Inc., Service Center, 44 Hartz Way, Secaucus, NJ 070944) V.1- 1973- Volume (issue)/page/year: 12,355,1983
- **Route of Administration:** - ORAL
Species Tested: - Bird- -Wild bird species.
Dose Data: LD50 - 750 mg/kg
Toxic Effects: Details of the toxic effect not reported
Source: AECTCV Archives of Environmental Contamination and Toxicology. (Springer-Verlag New York, Inc., Service Center, 44 Hartz Way, Secaucus, NJ 070944) V.1- 1973- Volume (issue)/page/year: 12,355,1983

b) Skin corrosion/irritation

- Causes skin irritation.

c) Serious eye damage/irritation

- No data is available.

d) Respiratory or skin sensitization

- No data is available.

e) Germ cell Mutagenicity

- No data is available.



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f) Carcinogenicity

- Not listed by NTP, IARC and OSHA.
- Not present on the EU CMR list.
- According to information presently available 2-(Hydroxymethyl) pyridine is not found to be carcinogenic.

g) Reproductive toxicity

- No data is available.

h) STOT-single exposure

- No data is available.

i) STOT- repeated exposure

- No data available.

j) Aspiration Hazards

- No data available.

SECTION 12:

ECOLOGICAL INFORMATION

Toxicity

Ecotoxicity:

- Fish ChV=140 mg/l
- 2-Pyridinemethanol is not chronically toxic to fish. It is important to note that these results do not suggest that 2-(Hydroxymethyl) pyridine will not be toxic to all aquatic organisms. Some aquatic organisms, such as daphnids, may be more sensitive to both acute and chronic exposures to 2-Pyridinemethanol.

Persistence and degradability:

- 2-(Hydroxymethyl) pyridine is expected to be found predominantly in soil and its persistence estimate is based on its transformation in this medium. Its half-life in soil, 30 days, does not exceed the EPA criteria. Therefore, 2-(Hydroxymethyl) pyridine is estimated not to be persistent in the environment. It is expected to be biodegradable in aerobic and anaerobic conditions.

Bio accumulative potential

- BCF = 3.2 (Estimated)
- Log Kow = 0.06 (Estimated).

Based on the Log Kow and Bio concentration factor value it is expected to have Non bio accumulative in fish and aquatic organisms and Negligible potential to bio accumulate.

Mobility in soil

- Log Koc = 1.195 (predicted). Negligible sorption.
- Henry's Law constant: 6.74×10^{-11} atm-m³/mole. Non-volatile from aqueous bodies.
- Log Kow = 0.06. Negligible potential to bio accumulate.



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Other adverse effects.

- **Environment Fate:**

- Based on the environmental modal it is predicted that 2-(Hydroxymethyl) pyridine is not expected to be classified as persistent in the environment. It has low ability to concentrate in the fatty tissue of fish and aquatic organisms. Since this is an estimated result, necessary guidelines should be followed before disposing off the material in to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

- 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:

- Marine pollutant: No.

SECTION 15: REGULATORY INFORMATION

European Union Information

Classification as per Regulation 67/548/EEC: Classification: Xi; 38 - Xn; R22

- Xi Irritant
- Xn Harmful

Risk Phrases:

- R38: Irritating to eyes, respiratory system and skin.
- R22: Harmful if swallowed.

Safety Phrases:

- S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
- S45: In case of accident or if you feel unwell, seek medical advice immediately.

Classification as per CLP Regulation 1272/2008:

- **Hazards Class and Category:** Acute Tox Oral Cat.4, Skin Irrit. Cat.2,
- **Hazard Statements:** H302;H315



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Chemical Inventory Lists:	Status
TSCA:	Not Listed
EINECS:	209-592-7
Canada(DSL/NDSL):	Not Listed
Japan:	5-3694
Korea:	Not listed
Australia:	Not listed
China: IECSC	Not Listed

US Information:

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.

CERCLA Hazardous Substances and corresponding RQs

- None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

- 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 depletors.
- This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

- None of the chemicals in this product are listed as Hazardous Substances under the clean water act.

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.

STATE

- CAS# 586-98-1 is not present on state lists from CA, PA, MN, MA, FL, or NJ.



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California Prop 65

- California No Significant Risk Level: None of the chemicals in this product are listed.

WGK (Water Danger/Protection)

- CAS# 586-98-1: 2

Canada - DSL/NDSL

- There is no control measure imposed to this substance.

Canada - WHMIS

- WHMIS: Not available.

SECTION 16: OTHER INFORMATION

Compilation information of safety data sheet

Chemical: 2-(Hydroxymethyl)pyridine.

CAS #: 586-98-1

File Name: 0102 A00 Div.03 sds 2-(Hydroxymethyl) pyridine.

Revision Number: 00

Date of Issue of SDS: September 13, 2013

Revision Due Date: August, 2015

(a) 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.
- WHIMS = Workplace Hazardous Materials Information System.
- DSL/NDSL = Domestic/Non-Domestic Substances List.
- CSR = Chemical Safety Report.



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- 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 européen 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.

(b) 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

Internet

- RTECS
- ESIS
- PBT Profiler

Company's Declaration:

Information contained in this SDS is believed to be correct but no representation, guarantee or warranties of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. This SDS shall be used as a guide only. Jubilant Life Sciences Limited makes no warranties expressed or implied of the adequacy of this document for any particular purpose.

(End of Safety Data Sheet)