ChemicalBook

Chemical Safety Data Sheet MSDS / SDS

Pyridine

Revision Date:2026-05-31 Revision Number:1

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

Product identifier

Product name	: Pyridine
CBnumber	: CB8852825
CAS	: 110-86-1
EINECS Number	: 203-809-9
Synonyms	: Pyridine,Py

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

Relevant identified uses	: For R&D use only. Not for medicinal, household or other use.
Uses advised against	: none

Company Identification

Company	: Chemicalbook
Address	: Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone	: 010-86108875

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements

Symbol(GHS)

Signal word Danger

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.

P304+P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continuerinsing.

P311 Call a POISON CENTER or doctor/physician.

P337+P313 IF eye irritation persists: Get medical advice/attention.

P370+P378 In case of fire: Use … for extinction.

P403+P235 Store in a well-ventilated place. Keep cool.

Hazard statements

H225 Highly Flammable liquid and vapour

H301 Toxic if swalloed

H302 Harmful if swallowed

H311 Toxic in contact with skin

H312 Harmful in contact with skin

H315 Causes skin irritation

H319 Causes serious eye irritation

H331 Toxic if inhaled

H332 Harmful if inhaled

H370 Causes damage to organs

Disposal

WARNING.Cancer - https://oehha.ca.gov/proposition-65/chemicals/pyridine

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SECTION 3: Composition/information on ingredients

Substance

Product name	: Pyridine
Synonyms	: Pyridine,Py
CAS	: 110-86-1
EC number	: 203-809-9
MF	: C5H5N
MW	: 79.1

SECTION 4: First aid measures

Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

Notes to physician

No data available

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Small (incipient) fires must be extinguished with alcohol resistant foam, dry chemical powder or carbon dioxide. Large amounts of water are ineffective. Cool containers with large amounts of water.

Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NOx) Combustible.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

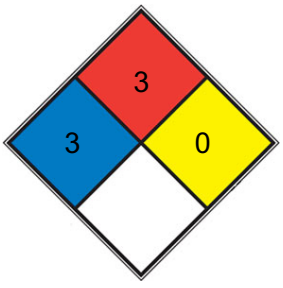
Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

NFPA 704



HEALTH	3	Short exposure could cause serious temporary or moderate residual injury (e.g. liquid hydrogen, sulfuric acid, calcium hypochlorite, hexafluorosilicic acid)
FIRE	3	Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions . Liquids having a flash point below 22.8 °C (73 °F) and having a boiling point at or above 37.8 °C (100 °F) or having a flash point between 22.8 and 37.8 °C (73 and 100 °F). (e.g. gasoline, acetone)
REACT	0	Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium,N2)

☐ SPEC.

HAZ.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

Environmental precautions

Do not let product enter drains. Risk of explosion.

Methods and materials for containment and cleaning up

Large spills should be collected mechanically (remove by pumping) for disposal. Ventilate the area.Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb?). Dispose of properly. Clean up affected area.

Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

Precautions for safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols. Keep away from open flames, hot surfaces and sources of ignition.Take precautionary measures against static discharge.

For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Handle and store under inert gas.

SECTION 8: Exposure controls/personal protection

control parameter

Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

Exposure controls

Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact Material: butyl-rubber

Minimum layer thickness: 0.7 mm Break through time: 240 min Material tested:Butoject? (KCL 898)

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

Exposure limits

TLV-TWA 5 ppm (～15 mg/m^3) (ACGIH, MSHA,and OSHA); STEL 10 ppm (ACGIH), IDLH 3600 ppm (NIOSH).

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

Appearance	colorless liquid
Odour	pungent
Odour Threshold	0.0001 ppm
pH	ca.8.81 at 20 °C
Melting point/freezing point	Melting point/range: -42 °C - lit.
Initial boiling point and boiling range	115 °C - lit.
Flash point	20 °C - closed cup - ISO 1523
Evaporation rate	12.7
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	Upper explosion limit: 12.4 %(V) Lower explosion limit: 1.8 %(V)
Vapour pressure	ca.26.7 hPa at 25 °C
Vapour density	2.73
Relative density	0.978 g/cm3 at 25 °C
Water solubility	ca.1,000 g/l at 20 °Csoluble
Partition coefficient: n-octanol/water	log Pow: ca.0.64 at 20 °C - (Lit.), Bioaccumulation is not expected.
Autoignition temperature	900 °C at 1,013 hPa
Decomposition temperature	ca.490 °C -
Viscosity	No data available

Explosive properties	No data available
Oxidizing properties	No data available
Henry's Law Constant	18.4 at 30 °C (headspace-GC, Chaintreau et al., 1995)
λmax	λ: 305 nm Amax: 1.00
	λ: 315 nm Amax: 0.15
	λ: 335 nm Amax: 0.02
	λ: 350-400 nm Amax: 0.01

Other safety information

Solubility in other solvents

Diethyl ether at 20 °C

miscible Ethanol at 20 °C

miscible

Surface tension 36.56 mN/m at 25 °C Dissociation constant 5.25 at 25 °C

Relative vapor density

2.73

SECTION 10: Stability and reactivity

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) . Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

Warming.

Incompatible materials

Strong oxidizing agents, Strong acids

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx)

Other decomposition products - No data available In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 1,500 mg/kg Remarks: (ECHA)

LC50 Inhalation - Rat - male - 4 h - 17.1 mg/l (US-EPA)

LD50 Dermal - Rabbit - > 1,000 - 2,000 mg/kg (OECD Test Guideline 402)

Skin corrosion/irritation

Skin - Rabbit

Result: Mild skin irritation - 24 h (Draize Test)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Irritating to eyes. - 24 h Remarks: (ECHA)

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: negative

(OECD Test Guideline 429)

Germ cell mutagenicity

Ames test

Salmonella typhimurium Result: negative

In vitro mammalian cell gene mutation test Chinese hamster lung cells

Result: negative

OECD Test Guideline 475 Mouse - male - Bone marrow Result: negative

Carcinogenicity

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Pyridine)

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Acute oral toxicity - Vomiting, Nausea

Acute inhalation toxicity - mucosal irritations, Cough, Shortness of breath

Specific target organ toxicity - repeated exposure Aspiration hazard

Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 102 Weeks - NOAEL (No observed adverse effect level) - 7 mg/kg

RTECS: UR8400000

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Dizziness, tachycardia, nervousness, insomnia, Skin disorders, loss of appetite To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Systemic effects:

After uptake:

Headache

In high doses:

narcosis, cardiovascular disorders, Circulatory collapse Chronic uptake results in damage of:

Liver, Kidney

Good warning effect due to low odour threshold. Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Toxicity

LD50 orally in rats: 1.58 g/kg (Smyth)

SECTION 12: Ecological information

Toxicity

Toxicity to fish

semi-static test EC50 - Danio rerio (zebra fish) - 560 - 1,000 mg/l - 96 h

(OECD Test Guideline 203)

Remarks: (in analogy to similar products)

Toxicity to daphnia and other aquatic invertebrates

EC50 - Daphnia magna (Water flea) - 320 mg/l - 48 h (OECD Test Guideline 202)

Remarks: (in analogy to similar products)

Toxicity to algae

static test EC50 - Pseudokirchneriella subcapitata - 320 mg/l - 72 h (OECD Test Guideline 201)

Remarks: (in analogy to similar products)

IC5 - Scenedesmus quadricauda (Green algae) - 120 mg/l - 7 d Remarks: (maximum permissible toxic concentration)(Lit.)

EC50 - SELENASTRUM - 100.00 - 180.00 mg/l - 72 h

Persistence and degradability

Biodegradability aerobic - Exposure time 28 d

Result: 97 % - Readily biodegradable. (OECD Test Guideline 301B)

Bioaccumulative potential

Mobility in soil

Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Toxics Screening Level

The initial threshold screening level (ITSL) for pyridine is 3.5 µg/m3 based on an annual averaging time.

Other adverse effects

No data available

SECTION 13: Disposal considerations

Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Incompatibilities

Violent reaction with strong oxidizers; strong acids; chlorosulfonic acid; maleic anhydride; oleum iodine.

Waste Disposal

Controlled incineration whereby nitrogen oxides are removed from the effluent gas by scrubber, catalytic or thermal devices .

SECTION 14: Transport information

UN number

ADR/RID: 1282 IMDG: 1282 IATA-DGR: 1282

UN proper shipping name

ADR/RID: PYRIDINE IMDG: PYRIDINE IATA-DGR: Pyridine

Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA-DGR: 3

Packaging group

ADR/RID: II IMDG: II IATA-DGR: II

Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA-DGR: no

Special precautions for user

Based on chemical properties, choose appropriate tools and conditions of transport. Transporting tools shall be equipped with appropriate and sufficient firefighting equipment and emergency leaking installations. If transporting by road, please go along the specified route.

Incompatible materials

Strong oxidizing agents, Strong acids

SECTION 15: Regulatory information

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

Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015:Listed. website: https://www.mem.gov.cn/

Measures for Environmental Management of New Chemical Substances

Vietnam National Chemical Inventory:Listed. website: https://chemicaldata.gov.vn/

United States Toxic Substances Control Act (TSCA) Inventory:Listed. website: https://www.epa.gov/

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC):Listed. website: https://www.mee.gov.cn/

New Zealand Inventory of Chemicals (NZIoC):Listed. website: https://www.epa.govt.nz/

Philippines Inventory of Chemicals and Chemical Substances (PICCS):Listed. website: https://emb.gov.ph/

EC Inventory:Listed.

Korea Existing Chemicals List (KECL):Listed. website: http://ncis.nier.go.kr

European Inventory of Existing Commercial Chemical Substances (EINECS):Listed. website: https://echa.europa.eu/

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

References

【1】CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

【2】ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

【3】ECHA - European Chemicals Agency, website: https://echa.europa.eu/

【4】eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

【5】ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

【6】Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

【7】HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

【8】IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

【9】IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

【10】Sigma-Aldrich, website: https://www.sigmaaldrich.com/

Other Information

Pyridine can normally be detected by odour at levels well below the TLV.However, perception of the odour may decline quickly.Depending on the degree of exposure, periodic medical examination is suggested.