

Pyridine > 99 % pure

Revision date: 20.04.2021

Product code: 07051

Page 1 of 12

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

1.1. Product identifier

Pyridine > 99 % pure

REACH Registration Number: 01-2119493105-40-XXXX
CAS No: 110-86-1
Index No: 613-002-00-7
EC No: 203-809-9

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

Use of the substance/mixture

Laboratory chemical
Industrial uses: Uses of substances as such or in preparations at industrial sites
Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name: Fa. Bernd Kraft GmbH
Street: Stempelstraße 6
Place: D-47167 Duisburg
Telephone: 0203/5194-0
Telefax: 0203/5194-290
e-mail: info@berndkraft.de
Contact person: Abteilung Produktsicherheit
Telephone: 0203/5194-107/117
e-mail: produktsicherheit@berndkraft.de
Internet: www.berndkraft.de
Responsible Department: Abteilung Produktsicherheit

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Further Information

No data available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Flam. Liq. 2; H225
Acute Tox. 4; H332
Acute Tox. 4; H312
Acute Tox. 4; H302
Skin Irrit. 2; H315
Eye Irrit. 2; H319

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Signal word: Danger

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Pyridine > 99 % pure

Revision date: 20.04.2021

Product code: 07051

Page 2 of 12

Pictograms:



Hazard statements

H225 Highly flammable liquid and vapour.
 H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P240 Ground and bond container and receiving equipment.
 P302+P352 IF ON SKIN: Wash with plenty of soap and water.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.1. Substances

Sum formula: C₅H₅N
 Molecular weight: 79,1 g/mol

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
110-86-1	pyridine			100 %
	203-809-9	613-002-00-7	01-2119493105-40-XXXX	
	Flam. Liq. 2, Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2; H225 H332 H312 H302 H315 H319			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
110-86-1	203-809-9	pyridine	100 %
	inhalation: LC50 = 4900 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = > 1000 - < 2000 mg/kg; oral: LD50 = > 800 - < 1600 mg/kg		

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

No data available

Pyridine > 99 % pure

Revision date: 20.04.2021

Product code: 07051

Page 3 of 12

After inhalation

Provide fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Call a physician immediately.

After contact with skin

Wash immediately with: Water
Take off immediately all contaminated clothing and wash it before reuse.
Call a physician immediately.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.
Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Rinse mouth immediately and drink plenty of water.
Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Irritant
Dyspnoea
Cough
Anaesthetic state
Gastrointestinal complaints
Vomiting
Cardiac arrhythmias / Circulatory collapse
Headache

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

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Water spray jet, Carbon dioxide (CO₂), Foam, Extinguishing powder.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Combustible liquid.
Vapours are heavier than air, spread along floors and form explosive mixtures with air.
Hazardous combustion products
In case of fire may be liberated:
Nitrogen oxides (NO_x)
Beware of reignition.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.
In case of fire and/or explosion do not breathe fumes.
Avoid contact with skin, eyes and clothes.

Additional information

Danger of bursting container.
Use water spray jet to protect personnel and to cool endangered containers.
Suppress gases/vapours/mists with water spray jet.
Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

Pyridine > 99 % pure

Revision date: 20.04.2021

Product code: 07051

Page 4 of 12

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Keep away from sources of ignition - No smoking.

This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe).

Take action to prevent static discharges.

For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

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

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.

Danger of explosion

6.3. Methods and material for containment and cleaning up

For containment

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.

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

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Read label before use. Handle and open container with care.

When using do not eat, drink, smoke, sniff. Keep container tightly closed.

Use personal protection equipment. Use extractor hood (laboratory).

Do not breathe gas/fumes/vapour/spray. Provide adequate ventilation.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.

Vapours can form explosive mixtures with air.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Pyridine > 99 % pure

Revision date: 20.04.2021

Product code: 07051

Page 5 of 12

drink.

Further information on handling

Take off immediately all contaminated clothing and wash it before reuse.

Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Further information on storage conditions

Keep cool. Protect from sunlight.

storage temperature: +5°C - +30°C

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

CAS No	Substance	ppm	mg/m ³	fib/cm ³	Category	Origin
110-86-1	Pyridine	5	15		TWA (8 h)	
		10	30		STEL (15 min)	

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
110-86-1	pyridine			
	Consumer DNEL, long-term	oral	systemic	0,07 mg/kg bw/day
	Worker DNEL, acute	inhalation	systemic	7,5 mg/m ³
	Worker DNEL, long-term	dermal	systemic	0,14 mg/kg bw/day
	Worker DNEL, acute	dermal	systemic	0,42 mg/kg bw/day
	Consumer DNEL, long-term	inhalation	systemic	0,6 mg/m ³
	Consumer DNEL, long-term	dermal	systemic	0,07 mg/kg bw/day
	Worker DNEL, long-term	inhalation	systemic	2,5 mg/m ³

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Pyridine > 99 % pure

Revision date: 20.04.2021

Product code: 07051

Page 6 of 12

PNEC values

CAS No	Substance	Value
Environmental compartment		
110-86-1	pyridine	
Freshwater		0,3 mg/l
Freshwater (intermittent releases)		3 mg/l
Marine water		0,03 mg/l
Freshwater sediment		3,2 mg/kg
Marine sediment		0,32 mg/kg
Micro-organisms in sewage treatment plants (STP)		2 mg/l
Soil		0,46 mg/kg

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection: goggles.

Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact: No data available

By short-term hand contact

Trade name/designation: KCL 897 Butoject®

Butyl caoutchouc (butyl rubber) 0,3 mm

Wearing time with occasional contact (splashes): >219min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. 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).

Skin protection

Flame-retardant protective clothing. Wear anti-static footwear and clothing

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

Filtering device with filter or ventilator filtering device of type: A

Environmental exposure controls

Do not allow to enter into surface water or drains.

Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.

Danger of explosion

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid
Colour: colourless

Pyridine > 99 % pure

Revision date: 20.04.2021

Product code: 07051

Page 7 of 12

Odour: pungent

Test method

Changes in the physical state

Melting point/freezing point: -42 °C
 Boiling point or initial boiling point and boiling range: 115 °C
 Sublimation point: No data available
 Softening point: No data available
 Pour point: No data available
 No data available:
 Flash point: 17 °C

Flammability

Solid/liquid: not applicable
 Gas: not applicable

Explosive properties

No data available

Lower explosion limits: 1,7 vol. %
 Upper explosion limits: 10,6 vol. %
 Auto-ignition temperature: 482 °C

Self-ignition temperature

Solid: not applicable
 Gas: not applicable

Decomposition temperature: ~490 °C

pH-Value (at 20 °C): ~8,81

Viscosity / dynamic: (at 25 °C) ~0,88 mPa·s

Viscosity / kinematic: No data available

Flow time: No data available

Water solubility: (at 20 °C) ~1000 g/L

Solubility in other solvents

not determined

Partition coefficient n-octanol/water: log Pow: ca. 0,64 (20 °C)

Vapour pressure: (at 25 °C) 26,7 hPa

Vapour pressure: No data available

Density (at 20 °C): 0,982 g/cm³

Bulk density: No data available

Relative vapour density: not determined

9.2. Other information

Information with regard to physical hazard classes

Sustaining combustion: No data available

Oxidizing properties
 Not oxidising.

Other safety characteristics

Solvent separation test: No data available

Pyridine > 99 % pure

Revision date: 20.04.2021

Product code: 07051

Page 8 of 12

Solvent content: No data available
Solid content: No data available
Evaporation rate: not determined

Further Information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Vapours may form explosive mixtures with air.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Danger of explosion: Nitrogen oxides (NOx), perchloric acid
Exothermic reaction with: Fluorine, sulphuric acid, silver perchlorate
Ignition hazard: Oxidising agent, Nitric acid
chromium trioxide, acid anhydride, perchromates, oleum

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.

10.5. Incompatible materials

Plastic articles
Rubber articles
Metal articles

10.6. Hazardous decomposition products

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Harmful if swallowed.
Harmful in contact with skin.
Harmful if inhaled.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
110-86-1	pyridine				
	oral	LD50 > 800 - < 1600 mg/kg	Rat	Study report (1978)	Precedes establishment of guideline and
	dermal	LD50 > 1000 - < 2000 mg/kg	Rabbit	Study report (1973)	OECD Guideline 402
	inhalation (4 h) vapour	LC50 4900 mg/l	Rat	Other company data (1984)	EPA OPPTS 870.1300
	inhalation dust/mist	ATE 1,5 mg/l			

Irritation and corrosivity

Pyridine > 99 % pure

Revision date: 20.04.2021

Product code: 07051

Page 9 of 12

Causes skin irritation.
Causes serious eye irritation.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

No data available

11.2. Information on other hazards

Other information

Liver and kidney damage

Further information

Irritant
Dyspnoea
Cough
Anaesthetic state
Gastrointestinal complaints
Vomiting
Cardiac arrhythmias / Circulatory collapse
Headache

SECTION 12: Ecological information

12.1. Toxicity

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
110-86-1	pyridine					
	Acute fish toxicity	LC50 > 560 - < 1000 mg/l	96 h	Danio rerio	Study report (1991)	OECD Guideline 203
	Acute algae toxicity	ErC50 320 mg/l	72 h	Pseudokirchneriella subcapitata	Study report (1991)	OECD Guideline 201

12.2. Persistence and degradability

97%, 28d aerob (OECD 301B)
Readily biodegradable (according to OECD criteria).

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
110-86-1	pyridine	0,64

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Pyridine > 99 % pure

Revision date: 20.04.2021

Product code: 07051

Page 10 of 12

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

Discharge into the environment must be avoided.

Further information

Do not empty into drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not empty into drains.

Contaminated packaging

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

<u>14.1. UN number or ID number:</u>	UN 1282
<u>14.2. UN proper shipping name:</u>	PYRIDINE
<u>14.3. Transport hazard class(es):</u>	3
<u>14.4. Packing group:</u>	II
Hazard label:	3
Classification code:	F1
Limited quantity:	1 L
Excepted quantity:	E2
Transport category:	2
Hazard No:	33
Tunnel restriction code:	D/E

Inland waterways transport (ADN)

<u>14.1. UN number or ID number:</u>	UN 1282
<u>14.2. UN proper shipping name:</u>	PYRIDINE
<u>14.3. Transport hazard class(es):</u>	3
<u>14.4. Packing group:</u>	II
Hazard label:	3
Classification code:	F1
Limited quantity:	1 L
Excepted quantity:	E2

Marine transport (IMDG)

<u>14.1. UN number or ID number:</u>	UN 1282
<u>14.2. UN proper shipping name:</u>	PYRIDINE
<u>14.3. Transport hazard class(es):</u>	3
<u>14.4. Packing group:</u>	II

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Pyridine > 99 % pure

Revision date: 20.04.2021

Product code: 07051

Page 11 of 12

Hazard label: 3
 Special Provisions: -
 Limited quantity: 1 L
 Excepted quantity: E2
 EmS: F-E, S-D

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1282
14.2. UN proper shipping name: PYRIDINE
14.3. Transport hazard class(es): 3
14.4. Packing group: II
 Hazard label: 3
 Limited quantity Passenger: 1 L
 Passenger LQ: Y341
 Excepted quantity: E2
 IATA-packing instructions - Passenger: 353
 IATA-max. quantity - Passenger: 5 L
 IATA-packing instructions - Cargo: 364
 IATA-max. quantity - Cargo: 60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Warning: Combustible liquid.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40

Information according to 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D): 2 - obviously hazardous to water

Skin resorption/Sensitization: Permeates easily through outer skin and causes poisoning.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1.

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Pyridine > 99 % pure

Revision date: 20.04.2021

Product code: 07051

Page 12 of 12

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

Relevant H and EUH statements (number and full text)

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H302+H312+H332	Harmful if swallowed, in contact with skin or if inhaled.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.