



## Pyridine

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### SECTION 2: Hazards identification


#### 2.1. Classification of the substance or mixture

##### REGULATION (EC) No 1272/2008

Skin irritation Category 2  
H315 Causes skin irritation.  
Eye irritation Category 2  
H319 Causes serious eye irritation.  
Flammable liquids Category 2  
H225 Highly flammable liquid and vapour.  
Acute toxicity Category 4 - Inhalation  
H332 Harmful if inhaled.  
Acute toxicity Category 4 - Dermal  
H312 Harmful in contact with skin.  
Acute toxicity Category 4 - Oral  
H302 Harmful if swallowed.

#### 2.2. Label elements

##### REGULATION (EC) No 1272/2008

Hazard pictograms	:	
Signal word	:	Danger
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. P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P280 Wear protective gloves/ eye protection/ face protection. P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do

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P302 + P352	NOT induce vomiting.
P304 + P340	IF ON SKIN: Wash with plenty of water.
	IF INHALED: Remove person to fresh air and keep 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. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.

### 2.3. Other hazards

May cause eye and skin irritation. Results of PBT and vPvB assessment, see chapter 12.5.

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
pyridine	110-86-1 613-002-00-7 203-809-9	Flam. Liq. 2; H225 Acute Tox. 4; H302; Oral Acute Tox. 4; H332; Inhalation Acute Tox. 4; H312; Dermal Skin Irrit. 2; H315 Eye Irrit. 2; H319	100 %	

### 3.2. Mixture

Not applicable

Occupational Exposure Limit(s), if available, are listed in Section 8.  
For the full text of the H-Statements mentioned in this Section, see Section 16.

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### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

*General advice:*

First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately.

*Inhalation:*

When inhaled remove to fresh air and seek medical aid.

*Skin contact:*

After contact with skin, wash immediately with plenty of water. Consult a physician.

*Eye contact:*

Rinse thoroughly with plenty of water, also under the eyelids. Protect unharmed eye. Remove contact lenses. Get medical attention immediately.

*Ingestion:*

When swallowed, allow water to be drunk. Call a physician immediately.

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

No data available

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

Treat symptomatically.

See Section 11 for more detailed information on health effects and symptoms.

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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

*Suitable extinguishing media:*

Water spray  
Foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry powder

*Extinguishing media which shall not be used for safety reasons:*

High volume water jet

#### 5.2. Special hazards arising from the substance or mixture

Vapours may form explosive mixtures with air.

In case of fire hazardous decomposition products may be produced such as:  
carbon oxides (CO, CO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>).

#### 5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

No unprotected exposed skin areas.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Do not use a solid water stream as it may scatter and spread fire.

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### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Keep people away from and upwind of spill/leak. Ensure adequate ventilation.

#### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

#### 6.3. Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Pick for disposal in tightly closed containers

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### 6.4. Reference to other sections

For personal protection see section 8.

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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

*Advice on safe handling:*

Exhaust ventilation at the object is necessary. Avoid formation of aerosol. Take precautionary measures against static discharges.

*Advice on protection against fire and explosion:*

Keep away from sources of ignition - No smoking. The heavy vapours can overcome a considerable distance up to the source of ignition. Normal measures for preventive fire protection.

*Hygiene measures:*

General industrial hygiene practice.

### 7.2. Conditions for safe storage, including any incompatibilities

*Requirements for storage areas and containers:*

Store in original container. Keep container tightly closed in a dry and well-ventilated place. Store at room temperature. (Ambient temperature: > 0 < 35°C)

### 7.3. Specific end use(s)

no additional data available

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### *Occupational exposure limits:*

Components	Basis / Value type	Value / Form of exposure	Exceeding Factor	Remarks
pyridine	EH40 WEL STEL	33 mg/m3 10 ppm		
pyridine	EH40 WEL TWA	16 mg/m3 5 ppm		
pyridine	EH40 WEL			Listed
pyridine	EU ELV TWA	15 mg/m3 5 ppm		

STEL - Short term exposure limit  
TWA - Time weighted average

##### DNEL/ PNEC-Values

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
pyridine	Workers / Long-term systemic effects		2,5 mg/m3	Inhalation	
pyridine	Workers / Acute systemic effects		7,5 mg/m3	Inhalation	
pyridine	Workers / Long-term systemic effects		0,14mg/kg bw/d	Skin contact	
pyridine	Workers / Acute systemic effects		0,42mg/kg bw/d	Skin contact	
pyridine	Consumers /		0,6 mg/m3	Inhalation	

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	Long-term systemic effects				
pyridine	Consumers / Long-term systemic effects		0,07mg/kg bw/d	Skin contact	
pyridine	Consumers / Long-term systemic effects		0,07mg/kg bw/d	Ingestion	

Component	Environmental compartment / Value	Remarks
pyridine	Fresh water: 0,3 mg/l	Assessment factor: 1000
pyridine	Marine water: 0,03 mg/l	Assessment factor: 10000
pyridine	Sewage treatment plant: 2 mg/l	Assessment factor: 10
pyridine	Fresh water sediment: 3,2 mg/kg dw	
pyridine	Marine sediment: 0,32 mg/kg dw	
pyridine	Soil: 0,46 mg/kg dw	

### 8.2. Exposure controls

#### Occupational exposure controls

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.

Ensure that eyewash stations and safety showers are close to the workstation location.

Avoid contact with skin, eyes and clothing.

#### Personal protective equipment

##### Respiratory protection:

In the case of vapour formation use a respirator with an approved filter.



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Recommended Filter type:  
Organic vapour type

*Hand protection:*

Glove material: butyl-rubber

Break through time: > 240 min

Glove thickness: 0,7 mm

Butoject® 898

Gloves must be inspected prior to use.

Replace when worn.

Remarks:Supplementary note: The specifications are based on information and tests from similar substances by analogy.

Due to varying conditions ( e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.

Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer recommends to use the chemical protective glove in practice not longer than 50% of the recommended permeation time.

Manufacturer´s directions for use should be observed because of great diversity of types .

Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

*Eye protection:*

Safety goggles

*Skin and body protection:*

Protective suit

### Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

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## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	:	liquid
Colour	:	colourless
Odour	:	unpleasant
molecular weight	:	79,1 g/mol

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Melting point/range	:	-42 °C
Boiling point/boiling range	:	115 °C at 1.013 hPa
Flammability	:	Not applicable
Upper explosion limit	:	12,4 %(V)
Lower explosion limit	:	1,8 %(V)
Flash point	:	20 °C Method: closed cup
Auto-ignition temperature	:	482 °C
Decomposition temperature	:	No decomposition if used as directed.
pH	:	ca. 8,8 at 20 °C
Viscosity, kinematic	:	No data available
Water solubility	:	completely miscible
Partition coefficient: n-octanol/water	:	log Pow 0,65
Vapour pressure	:	26 hPa at 25 °C
Vapour pressure	:	95 hPa at 50 °C
Density	:	0,98 g/cm <sup>3</sup> at 20 °C
Relative vapour density	:	No data available

### 9.2 Other Information

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The product is hygroscopic.

Evaporation rate : No data available

Viscosity, dynamic : 0,88 mPa.s  
at 25 °C

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Stable under normal conditions.

#### 10.2. Chemical stability

No decomposition if used as directed.

#### 10.3. Possibility of hazardous reactions

Vapours may form explosive mixture with air.

#### 10.4. Conditions to avoid

Heat, flames and sparks.  
Extremes of temperature and direct sunlight.

#### 10.5. Incompatible materials

Strong oxidizing agents  
Strong acids

#### 10.6. Hazardous decomposition products

In case of fire hazardous decomposition products may be produced such as:  
carbon oxides (CO, CO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>).

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

*Acute oral toxicity:*

Classification based on Annex VI of regulation 1272/2008/EC.

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*Acute dermal toxicity:*

LD50

Species: Rabbit

Value: > 1.000 - < 2.000 mg/kg

Method: OECD Test Guideline 402

*Acute inhalation toxicity:*

Classification based on Annex VI of regulation 1272/2008/EC.

*Skin irritation:*

Species: Rabbit

Result: Mild skin irritation

*Eye irritation:*

Species: Rabbit

Result: Irritating to eyes.

*Respiratory or skin sensitisation:*

Not classified due to data which are conclusive although insufficient for classification.

*Repeated dose toxicity:*

Note: Not classified due to data which are conclusive although insufficient for classification.

*Carcinogenicity:*

Species: not specified

Note: Not classified due to data which are conclusive although insufficient for classification.

*Germ cell mutagenicity:*

Note: Not classified due to data which are conclusive although insufficient for classification.

*Reproductive toxicity:*

Species: not specified

Remarks: Not classified due to data which are conclusive although insufficient for classification.

*Aspiration hazard:*

No data available

### 11.2. Information on other hazards

Endocrine disrupting properties

No data available

*Other information:*

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Not mutagenic in Ames Test

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### SECTION 12: Ecological information

#### 12.1. Toxicity

*Toxicity to fish:*

Not classified due to data which are conclusive although insufficient for classification.

*Toxicity to aquatic plants:*

No data available

*Toxicity to aquatic invertebrates:*

No data available

#### 12.2. Persistence and degradability

*Biodegradability:*

Biodegradation: 97 %

Exposure time: 28 d

Result: Readily biodegradable

Method: OECD 301 B

#### 12.3. Bioaccumulative potential

No bioaccumulation is to be expected ( $\log Pow \leq 4$ ).

#### 12.4. Mobility in soil

No data available

#### 12.5. Results of PBT and vPvB assessment

No data available

#### 12.6. Endocrine disrupting properties

No data available

#### 12.7. Other adverse effects

Bioaccumulation is unlikely.

Do not flush into surface water or sanitary sewer system.

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### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

*Product:*

Dispose according to legal requirements.

*Packaging:*

Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

*Further information:*

Provisions relating to waste:  
EC Directive 2006/12/EC; 2008/98/EEC  
Regulation No. 1013/2006

For personal protection see section 8.

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### SECTION 14: Transport information

#### 14.1 UN number

ADR/RID:1282

IMDG:1282

IATA:1282

#### 14.2 UN proper shipping name

ADR/RID:PYRIDINE

IMDG:PYRIDINE

IATA:Pyridine

#### 14.3 Transport hazard class(es)

ADR/RID: 3

IMDG: 3

IATA: 3

#### 14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

#### 14.5 Environmental hazards

ADR/RID:no

Marine pollutant: no

#### 14.6 Special precautions for user

No data available

#### 14.7 Maritime transport in bulk according to IMO instruments

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No data available

**SECTION 15: Regulatory information**

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

Basis	Value	Remarks
Directive 2012/18/EC SEVESO III Listed in Regulation : P5c: FLAMMABLE LIQUIDS	<b>Quantity:</b> 5.000.000 kg <b>Quantity:</b> 50.000.000 kg	
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of $\geq 0.1\%$ (w/w).

**Poison Control Center**

Country	Phone Number
Austria	+4314064343
Belgium	070 245245
Bulgaria	(+)35929154233
Croatia	(+3851)23-48-342
Cyprus	+357 2240 5611
Czech Republic	+420224919293; +420224915402
Denmark	82121212
Estonia	16662; (+372)6269390
Finland	9471977
France	+33(0)145425959
Greece	+30 210 779 3777
Hungary	(+36-80)201-199
Iceland	5432222

Country	Phone Number
Liechtenstein	+41 442515151
Lithuania	+370532362052
Luxembourg	070245245; (+352)80002-5500
Malta	+356 2395 2000
Netherlands	030-2748888
Norway	22591300
Poland	+48 42 25 38 400
Portugal	800250250
Romania	+40 21 318 3606
Slovakia (NTIC)	+421 2 54 774 166
Slovenia	+386 1 400 6051
Spain	+34915620420
Sweden	112 (begär Giftninformation); +46104566786

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Ireland	+353(1)8092166	Switzerland	145
Italy	0382 24444	United Kingdom	(+44) 844 892 0111
Germany	Berlin : 030/19240		
	Bonn : 0228/19240		
	Erfurt : 0361/730730		
	Freiburg : 0761/19240		
	Göttingen : 0551/19240		
	Homburg : 06841/19240		
	Mainz : 06131/19240		
Munich : 089/19240			
Latvia	+37167042473		

### Other inventory information

US. Toxic Substances Control Act  
On TSCA Inventory

Australia. Inventory of Industrial Chemicals (AIIC), as amended  
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)  
All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List  
On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)  
On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)  
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)  
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand  
On the inventory, or in compliance with the inventory



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Taiwan Chemical Substance Inventory (TCSI)  
On the inventory, or in compliance with the inventory

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

### Text of H-statements referred to under heading 3

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

### Further information

All directives and regulations refer to amended versions.  
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

Abbreviations:

EC European Community  
CAS Chemical Abstracts Service  
DNEL Derived no effect level  
PNEC Predicted no effect level  
vPvB Very persistent and very bioaccumulative substance  
PBT Persistent, bioaccumulative und toxic substance

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.

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This information should not constitute a guarantee for any specific product properties.

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