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

1.1 Product identifiers
Product name: Pyridine

Product Number: 270970
Brand: Sigma-Aldrich
Index-No.: 613-002-00-7
REACH No.: 01-2119493105-40-XXXX
CAS-No.: 110-86-1

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet
Company: Sigma-Aldrich Chemie BV
Stationsplein 4
3331 LL ZWIJNDRECHT
NETHERLANDS

Telephone: +31 78-620-5411
Fax: +31 78-620-5421
E-mail address: euretechserv@sial.com

1.4 Emergency telephone number
Emergency Phone #: 112

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Flammable liquids (Category 2), H225
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 4), H332
Acute toxicity, Dermal (Category 4), H312
Skin irritation (Category 2), H315
Eye irritation (Category 2), H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC
F Highly flammable R11
Xn Harmful R20/21/22
R36/38, R52

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements
Labelling according Regulation (EC) No 1272/2008
Pictogram

Signal word: Danger
Hazard statement(s)
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 statement(s)
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves/ protective clothing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements none

2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances
Formula : C₅H₅N
Molecular weight : 79.10 g/mol
CAS-No. : 110-86-1
EC-No. : 203-809-9
Index-No. : 613-002-00-7
Registration number : 01-2119493105-40-XXXX

Hazardous ingredients according to Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyridine</td>
<td></td>
<td></td>
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<tr>
<td>CAS-No.</td>
<td>110-86-1</td>
<td></td>
</tr>
<tr>
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<td>203-809-9</td>
<td></td>
</tr>
<tr>
<td>Index-No.</td>
<td>613-002-00-7</td>
<td>Flam. Liq. 2; Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; H225, H302 + H312 + H332, H315, H319 &lt;= 100 %</td>
</tr>
</tbody>
</table>

Hazardous ingredients according to Directive 1999/45/EC

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<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
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<tbody>
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<td>Pyridine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS-No.</td>
<td>110-86-1</td>
<td>F, Xn, R11 - R20/21/22 - R36/38 - R52 &lt;= 100 %</td>
</tr>
<tr>
<td>EC-No.</td>
<td>203-809-9</td>
<td></td>
</tr>
<tr>
<td>Index-No.</td>
<td>613-002-00-7</td>
<td></td>
</tr>
</tbody>
</table>

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 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

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
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides, Nitrogen oxides (NOx)

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Handle and store under inert gas.
Storage class (TRGS 510): Flammable liquids

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated
SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Splash contact
Material: butyl-rubber
Minimum layer thickness: 0.3 mm
Break through time: 219 min
Material tested:Butoject® (KCL 897 / Aldrich Z677647, Size M)
data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de,
test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection
Complete suit protecting against chemicals. Flame retardant antistatic protective clothing,. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance      Form: liquid
                   Colour: colourless

b) Odour           unpleasant

c) Odour Threshold No data available
d) pH  8,5 at 15,82 g/l at 25 °C  
e) Melting point/freezing point  Melting point/range: -42 °C - lit.  
f) Initial boiling point and boiling range  115 °C - lit.  
g) Flash point  17,0 °C - closed cup  
h) Evaporation rate  No data available  
i) Flammability (solid, gas)  No data available  
j) Upper/lower flammability or explosive limits  Upper explosion limit: 12,4 %(V)  
               Lower explosion limit: 1,8 %(V)  
k) Vapour pressure  13,3 hPa at 13,2 °C  
               26,7 hPa at 25,0 °C  
l) Vapour density  No data available  
m) Relative density  0,978 g/cm3 at 25 °C  
n) Water solubility  soluble  
o) Partition coefficient: n-octanol/water  log Pow: 0,65  
p) Auto-ignition temperature  482,0 °C  
q) Decomposition temperature  No data available  
r) Viscosity  No data available  
s) Explosive properties  No data available  
t) Oxidizing properties  No data available  

9.2 Other safety information  
No data available  

SECTION 10: Stability and reactivity  

10.1 Reactivity  
No data available  

10.2 Chemical stability  
Stable under recommended storage conditions.  

10.3 Possibility of hazardous reactions  
No data available  

10.4 Conditions to avoid  
Heat, flames and sparks.  

10.5 Incompatible materials  
Strong oxidizing agents, Strong acids  

10.6 Hazardous decomposition products  
Other decomposition products - No data available  
In the event of fire: see section 5
SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - 891.0 mg/kg

LC50 Inhalation - Rat - 1 h - 28.500 mg/m3

LD50 Dermal - Rabbit - 1.121 mg/kg

Skin corrosion/irritation
Skin - Rabbit
Result: Mild skin irritation - 24 h (Draize Test)

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitisation
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Pyridine)

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
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.
Bone marrow -

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish
LC50 - Pimephales promelas (fathead minnow) - 93,80 mg/l - 96 h
LC50 - Cyprinus carpio (Carp) - 26,00 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates
EC50 - Daphnia magna (Water flea) - 940,00 mg/l - 48 h
12.2 Persistence and degradability
Biodegradability: aerobic - Exposure time 28 d
Result: 97% - Readily biodegradable.

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects
Harmful to aquatic life.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

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
IMDG Marine pollutant: no
IATA: no

14.6 Special precautions for user
No data available

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
No data available

15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out
SECTION 16: Other information

Full text of H-statements referred to under sections 2 and 3.

<table>
<thead>
<tr>
<th>Acute Tox.</th>
<th>Acute toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit.</td>
<td>Eye irritation</td>
</tr>
<tr>
<td>Flam. Liq.</td>
<td>Flammable liquids</td>
</tr>
<tr>
<td>H225</td>
<td>Highly flammable liquid and vapour.</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H302 + H312 +</td>
<td>Harmful if swallowed, in contact with skin or if inhaled</td>
</tr>
<tr>
<td>H332</td>
<td></td>
</tr>
<tr>
<td>H312</td>
<td>Harmful in contact with skin.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
</tbody>
</table>

Full text of R-phrases referred to under sections 2 and 3

<table>
<thead>
<tr>
<th>F</th>
<th>Highly flammable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xn</td>
<td>Harmful</td>
</tr>
<tr>
<td>R11</td>
<td>Highly flammable.</td>
</tr>
<tr>
<td>R20/21/22</td>
<td>Harmful by inhalation, in contact with skin and if swallowed.</td>
</tr>
<tr>
<td>R36/38</td>
<td>Irritating to eyes and skin.</td>
</tr>
<tr>
<td>R52</td>
<td>Harmful to aquatic organisms.</td>
</tr>
</tbody>
</table>

Further information

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.