1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Pyridine
Product Number : 270970
Brand : Sigma-Aldrich
Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone : +1 800-325-5832
Fax : +1 800-325-5052
Emergency Phone # : (314) 776-6555

2. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : C₅H₅N
Molecular Weight : 79.1 g/mol

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyridine</td>
<td>110-86-1</td>
<td>203-809-9</td>
<td>613-002-00-7</td>
</tr>
</tbody>
</table>

3. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Flammable Liquid, Harmful by ingestion., Harmful by skin absorption., Corrosive, Carcinogen

Target Organs
Kidney, Liver, Bone marrow, Nerves.

HMIS Classification
Health Hazard: 3
Chronic Health Hazard: *
Flammability: 3
Physical hazards: 0

NFPA Rating
Health Hazard: 3
Fire: 3
Reactivity Hazard: 0

Potential Health Effects
Inhalation
May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin  Harmful if absorbed through skin. Causes skin burns.
Eyes  Causes eye burns.
Ingestion  Harmful if swallowed. Causes burns.

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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
Continue rinsing eyes during transport to hospital. 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.

5. FIRE-FIGHTING MEASURES

Flammable properties
Flash point  17.0 °C (62.6 °F) - closed cup
Ignition temperature  482 °C (900 °F)

Suitable extinguishing media
For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

Further information
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid breathing vapors, 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.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods for cleaning up
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

7. HANDLING AND STORAGE

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.
**Storage**

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. Store in cool place.

Handle and store under inert gas.

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyridine</td>
<td>110-86-1</td>
<td>TWA</td>
<td>1 ppm</td>
<td>2007-01-01</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
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<tr>
<td>Remarks</td>
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<td><strong>Liver &amp; kidney damage Skin irritation</strong></td>
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<td><strong>Confirmed animal carcinogen with unknown</strong></td>
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<td><strong>relevance to humans:</strong> The agent is**</td>
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<td><strong>carcinogenic in experimental animals at a</strong></td>
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<td><strong>relatively high dose, by route(s) of</strong></td>
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<td><strong>administration, at site(s), of histologic</strong></td>
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<td><strong>type(s), or by mechanism(s) that may not be</strong></td>
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<td><strong>relevant to worker exposure. Available</strong></td>
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<td><strong>epidemiologic studies do not confirm an</strong></td>
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<td><strong>increased risk of cancer in exposed humans.</strong></td>
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<td><strong>Available evidence does not suggest that</strong></td>
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<td><strong>the agent is likely to cause cancer in</strong></td>
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<td></td>
<td><strong>humans except under uncommon or unlikely</strong></td>
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<td><strong>routes or levels of exposure.</strong></td>
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</table>

<table>
<thead>
<tr>
<th>TWA</th>
<th>5 ppm</th>
<th>15 mg/m³</th>
<th>1989-01-19</th>
<th>USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000</th>
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<tbody>
<tr>
<td>TWA</td>
<td>5 ppm</td>
<td>15 mg/m³</td>
<td>1997-08-04</td>
<td>USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants</td>
</tr>
</tbody>
</table>

The value in mg/m³ is approximate.

#### Personal protective equipment

**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).

**Hand protection**

Handle with gloves.

**Eye protection**

Tightly fitting safety goggles. Faceshield (8-inch minimum).

**Skin and body protection**

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**
- Form: liquid
- Colour: colourless
- Odour: unpleasant

**Safety data**
- pH: 8.5 at 15.82 g/l at 25 °C (77 °F)
- Melting point: -42 °C (-44 °F) - lit.
- Boiling point: 115 °C (239 °F) - lit.
- Flash point: 17.0 °C (62.6 °F) - closed cup
- Ignition temperature: 482 °C (900 °F)
- Lower explosion limit: 1.8 %(V)
- Upper explosion limit: 12.4 %(V)
- Vapour pressure: 13.3 hPa (10.0 mmHg) at 13.2 °C (55.8 °F)
  26.7 hPa (20.0 mmHg) at 25.0 °C (77.0 °F)
- Density: 0.978 g/mL at 25 °C (77 °F)
- Water solubility: soluble
- Partition coefficient: log Pow: 0.65

10. STABILITY AND REACTIVITY

**Storage stability**
Stable under recommended storage conditions.

**Conditions to avoid**
Heat, flames and sparks.

**Materials to avoid**
Strong oxidizing agents, Strong acids

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

**Hazardous reactions**
Vapours may form explosive mixture with air.

11. TOXICOLOGICAL INFORMATION

**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

Irritation and corrosion
Skin - rabbit - Mild skin irritation - 24 h
Eyes - rabbit - Corrosive to eyes - 24 h

Sensitisation
no data available

Chronic exposure
IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Pyridine)
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs and Symptoms of Exposure
burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Dizziness, tachycardia, nervousness, insomnia, Skin disorders, loss of appetite

Potential Health Effects
Inhalation
May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Skin
Harmful if absorbed through skin. Causes skin burns.

Eyes
Causes eye burns.

Ingestion
Harmful if swallowed. Causes burns.

Target Organs
Kidney, Liver, Bone marrow, Nerves.

Additional Information
RTECS: UR8400000

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)
no data available

Ecotoxicity effects
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
EC50 - Daphnia pulex (Water flea) - 520.00 mg/l - 48 h

Toxicity to algae
EC50 - SELENASTRUM - 100.00 - 180.00 mg/l - 72 h

Further information on ecology
no data available

13. DISPOSAL CONSIDERATIONS
Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
- UN-Number: 1282  Class: 3  Packing group: II
- Proper shipping name: Pyridine
- Reportable Quantity (RQ): 1000 lbs
- Marine pollutant: No
- Poison Inhalation Hazard: No

IMDG
- UN-Number: 1282  Class: 3  Packing group: II
- Proper shipping name: PYRIDINE
- Marine pollutant: No

IATA
- UN-Number: 1282  Class: 3  Packing group: II
- Proper shipping name: Pyridine

15. REGULATORY INFORMATION

OSHA Hazards
- Flammable Liquid, Harmful by ingestion., Harmful by skin absorption., Corrosive, Carcinogen

DSL Status
- All components of this product are on the Canadian DSL list.

SARA 302 Components
- SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

<table>
<thead>
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SARA 311/312 Hazards
- Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

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Pennsylvania Right To Know Components

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New Jersey Right To Know Components

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California Prop. 65 Components

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</table>

WARNING! This product contains a chemical known in the State of California to cause cancer.
16. OTHER INFORMATION

Further information
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