Section 1 - Product and Company Information

Product Name                       PYRIDINE, REAGENTPLUSTM, >=99%
Product Number                     320498
Brand                              ALDRICH
Company                            Sigma-Aldrich
Street Address                     3050 Spruce Street
City, State, Zip, Country          SAINT LOUIS MO 63103 US
Technical Phone:                   314 771 5765
Emergency Phone:                   414 273 3850 Ext. 5996
Fax:                               800 325 5052

Section 2 - Composition/Information on Ingredient

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS #</th>
<th>SARA 313</th>
</tr>
</thead>
<tbody>
<tr>
<td>PYRIDINE</td>
<td>110-86-1</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Formula         C5H5N
Synonyms        Azabenzene * Azine * NCI-C55301 * Piridina (Italian) * Pirydyna (Polish) * Pyridin (German) * Pyridine (ACGIH:OSHA) * RCRA waste number U196
RTECS Number:   UR8400000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

HMIS RATING
HEALTH: 2*
FLAMMABILITY: 3
REACTIVITY: 0

NFPA RATING
HEALTH: 2
FLAMMABILITY: 3
REACTIVITY: 0

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE
If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.
INHALATION EXPOSURE
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLAMMABLE HAZARDS
Flammable Hazards: Yes

EXPLOSION HAZARDS
Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions. Forms explosive mixtures in air.

FLASH POINT
62.6 °F  17 °C  Method: closed cup

EXPLOSION LIMITS
Lower: 1.8 %   Upper: 12.4 %

AUTOIGNITION TEMP
482 °C

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: 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.

FIREFIGHTING
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Emits toxic fumes under fire conditions. Vapor may travel considerable distance to source of ignition and flash back. Specific Method(s) of Fire Fighting: Use water spray to cool fire-exposed containers.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area. Shut off all sources of ignition.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.
METHODS FOR CLEANING UP
Cover with dry-lime, sand, or soda ash. Place in covered
containers using non-sparking tools and transport outdoors.
Ventilate area and wash spill site after material pickup is
complete.

Section 7 - Handling and Storage

HANDLING
User Exposure: Do not breathe vapor. Avoid contact with eyes,
skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE
Suitable: Keep container closed. Keep away from heat, sparks,
and open flame. Packaged under nitrogen in SURE/SEAL bottles.
SURE/SEAL is a trademark of Aldrich Chemical Company, Inc.
Handle and store under nitrogen.

SPECIAL REQUIREMENTS
Packaged under inert gas. Handle and store under inert gas.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
Safety shower and eye bath. Use nonsparking tools. Use only in a
chemical fume hood.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory: Government approved respirator.
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling. Remove and wash contaminated
clothing promptly.

EXPOSURE LIMITS, RTECS
Country Source Type Value
USA ACGIH TWA 5 PPM
USA MSHA Standard-air TWA 5 PPM (15 MG/M3)
USA OSHA PEL 8H TWA 5 PPM (15 MG/M3)
New Zealand OEL Remarks: check ACGIH TLV
USA NIOSH TWA 5 PPM

EXPOSURE LIMITS
Country Source Type Value
Poland NDS 5 MG/M3
Poland NDSCh 30 MG/M3
Poland NDSP -

Section 9 - Physical/Chemical Properties

Appearance Physical State: Liquid
Color: Colorless
Odor: Unpleasant odor.

Property Value At Temperature or Pressure
Molecular Weight 79.1 AMU
pH 8.5
BP/BP Range             115 °C              760 mmHg
MP/MP Range             - 42.0 °C
Freezing Point          - 42.0 °C
Vapor Pressure          20 mmHg             25 °C
Vapor Density           2.72 g/l
Saturated Vapor Conc.   N/A
SG/Density              0.978 g/cm³
Bulk Density            N/A
Odor Threshold          < 1 ppm
Volatile%               N/A
VOC Content             N/A
Water Content           N/A
Solvent Content         N/A
Evaporation Rate        N/A
Viscosity               N/A
Surface Tension         N/A
Partition Coefficient   Log Kow: 0.65
Decomposition Temp.     N/A
Flash Point             62.6 °F 17 °C       Method: closed cup
Explosion Limits        Lower: 1.8 %
                        Upper: 12.4 %
Flammability            N/A
Autoignition Temp       482 °C
Refractive Index        1.51
Optical Rotation        N/A
Miscellaneous Data      N/A
Solubility              Solubility in Water: Soluble.

N/A = not available

Section 10 - Stability and Reactivity

STABILITY
Stable: Stable.
Conditions to Avoid: Heat.
Materials to Avoid: Strong oxidizing agents, Strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, and nitrogen oxides, Cyanides.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE
Skin Contact: May cause skin irritation.
Skin Absorption: Harmful if absorbed through skin. Readily absorbed through skin.
Eye Contact: Causes severe eye irritation.
Inhalation: Harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.
Ingestion: Harmful if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

SIGNS AND SYMPTOMS OF EXPOSURE
Dose-related side effects may include: anorexia, nausea, vomiting, headache, dizziness, tachycardia, nervousness, insomnia, skin disorders Symptoms of exposure may include
burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

TOXICITY DATA

Oral
Rat
891 mg/kg
LD50

Skin
Rabbit
1,121 mg/kg
LD50

Inhalation
Rat
9,015 ppm
LC50

Oral
Rat
891 mg/kg
LD50

Inhalation
Rat
28,500 mg/m3
LC50

Intraperitoneal
Rat
866 MG/KG
LD50

Subcutaneous
Rat
866 MG/KG
LD50

Intravenous
Rat
360 MG/KG
LD50

Oral
Mouse
1500 mg/kg
LD50

Intraperitoneal
Mouse
950 MG/KG
LD50
Subcutaneous
Mouse
1250 MG/KG
LD50

Intravenous
Mouse
420 MG/KG
LD50

Intravenous
Dog
880 MG/KG
LD50

Skin
Rabbit
1121 mg/kg
LD50

Skin
Guinea pig
1000 mg/kg
LD50

Oral
Mammal
1500 mg/kg
LD50

Inhalation
Mammal
10,000 mg/m3
LC50

IRRITATION DATA

Eyes
Rabbit
90 %
24 HR
Remarks: Application of 90% solution resulted in severe reaction with clouding of the cornea and scarring of the conjunctiva. Permanent mild stromal opalescence and subepithelial vascularization occurred.

Skin
Rabbit
500 mg
24H
Remarks: Mild irritation effect
CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Species: Rat
Route of Application: Oral
Dose: 24024 MG/KG
Exposure Time: 2Y
Frequency: C

Species: Mouse
Route of Application: Oral
Dose: 25480 MG/KG
Exposure Time: 2Y
Frequency: C
Result: Liver: Tumors. Tumorigenic: Carcinogenic by RTECS criteria.

IARC CARCINOGEN LIST
Rating: Group 3

NTP CARCINOGEN LIST
Rating: Clear evidence.
Species: Mouse
Route: Drinking

ACGIH CARCINOGEN LIST
Rating: A3

Section 12 - Ecological Information

ACUTE ECOTOXICITY TESTS

Test Type: LC50 Fish
Species: Pimephales promelas (Fathead minnow)
Time: 96 h
Value: 93.8 mg/l

Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 48 h
Value: 940 mg/l

Test Type: LC50 Fish
Species: Cyprinus carpio
Time: 96 h
Value: 26 mg/l

Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 48 h
Value: 1,140 mg/l

Test Type: EC50 Daphnia
Species: Daphnia pulex
Time: 48 h
Value: 520 mg/l
Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. 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.

Section 14 - Transport Information

DOT
Proper Shipping Name: Pyridine
UN#: 1282
Class: 3
Packing Group: Packing Group II
Hazard Label: Flammable liquid
PIH: Not PIH

IATA
Proper Shipping Name: Pyridine
IATA UN Number: 1282
Hazard Class: 3
Packing Group: II

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION
Symbol of Danger: F-Xn
R: 11-20/21/22
Risk Statements: Highly flammable. Harmful by inhalation, in contact with skin and if swallowed.
S: 26-28
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of soap-suds.

US CLASSIFICATION AND LABEL TEXT
Risk Statements: Harmful by inhalation, in contact with skin and if swallowed. Risk of serious damage to eyes.
Safety Statements: Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.
Target organ(s): Liver. Kidneys.

UNITED STATES REGULATORY INFORMATION
SARA LISTED: Yes
DEMINIMIS: 1 %
NOTES: This product is subject to SARA section 313 reporting requirements.
TSCA INVENTORY ITEM: Yes
UNITED STATES - STATE REGULATORY INFORMATION

CALIFORNIA PROP - 65
California Prop - 65: This product is or contains chemical(s) known to the state of California to cause cancer.

CANADA REGULATORY INFORMATION
WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

DISCLAIMER
For R&D use only. Not for drug, household or other uses.

WARRANTY
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 Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.