SECTION 1 . Product and Company Identification

Product Name and Synonym: Pyridine

Product Code: P9161

Material Uses: Science Stuff
Manufacturer: 1104 Newport Ave

Science Stuff
1104 Newport Ave
Austin, TX  78753
(512) 837-6020

Entry Date : 6/18/2013
Print Date: 6/18/2013
24 Hour Emergency Assistance : Chemtrec 800-424-9300
Canutec  613-996-6666

SECTION 2 HAZARD IDENTIFICATION

Keep away from heat and ignition sources. Harmful if swallowed. Avoid breathing vapors. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

WARNING!
HARMFUL IF INHALED OR ABSORBED THROUGH THE SKIN
CAUSES SEVERE EYE AND SKIN IRRITATION
MAY CAUSE EYE AND SKIN IRRITATION.
FLAMMABLE LIQUID AND VAPOR.
VAPOR MAY CAUSE FLASH FIRE.

MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: KIDNEYS, LIVER, RESPIRATORY TRACT, SKIN, EYES, CENTRAL NERVOUS SYSTEM, GASTROINTESTINAL TRACT
WARNING: this product contains a chemical known to the State of California to cause cancer.

Keep away from heat, sparks and flame. Do not breath vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep contain tightly closed and sealed until ready for use. Wash thoroughly after handling.

Physical state: Liquid. [Colorless to light yellow.]
OSHA/HCS status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Routes of entry:
Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects:

Eyes: Severely irritating to the eyes. Risk of serious damage to eyes.
Skin: Toxic in contact with skin. Severely irritating to the skin.
Inhalation: Toxic by inhalation. Irritating to respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion: Toxic if swallowed.

Potential chronic health effects:

Carcinogenicity: No known significant effects or critical hazards.
Mutagenicity: No known significant effects or critical hazards.
Teratogenicity/Reproductive toxicity: No known significant effects or critical hazards.
Developmental effects: No known significant effects or critical hazards.
Fertility effects: No known significant effects or critical hazards.
Target organs: May cause damage to the following organs: kidneys, liver, gastrointestinal tract, skin, eyes, central nervous system (CNS).
Medical conditions aggravated by over-exposure: Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

### SECTION 3 Mixture Components

<table>
<thead>
<tr>
<th>SARA 313</th>
<th>Component</th>
<th>CAS Number</th>
<th>Percent Comp.</th>
<th>Dimension</th>
<th>Exposure Limits</th>
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</thead>
<tbody>
<tr>
<td>✅ Pyridine</td>
<td>CAS# 110-86-1</td>
<td>&gt;99% W/W</td>
<td>OSHA TWA 5 ppm (15 mg/m³)</td>
<td></td>
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</tbody>
</table>

### SECTION 4 First Aid Measures

Keep away from heat and ignition sources. Harmful if swallowed. Avoid breathing vapors. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

**FIRST AID:**
- **SKIN:** Remove contaminated clothing. Wash exposed area with soap and water. If irritation persists, seek medical attention.
- **EYES:** Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid.
- **INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
- **INGESTION:** If swallowed, induce vomiting immediately after giving two glasses of water. Never give anything by mouth to an unconscious person.

### SECTION 5 Fire Fighting Measures

**Fire Extinguisher Type:** Water spray, Carbon dioxide, dry chemical, powder, foam.

**Fire / Explosion Hazards:** Can release vapors that form explosive mixtures at temperatures at or above the flash point. Vapors may travel a considerable distance and flash back to the source.

**Fire Fighting Procedure:** Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.

### SECTION 6 Accidental Release Measures

Absorb spill with inert material, then place in a chemical waste container. Dispose of in a manner consistent with federal, local law.

**Personal precautions:** No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personal from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Were appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**Environmental precautions:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Spill:** Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-Proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for
Pyridine

emergency contact information and section 13 for waste disposal. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container.

SECTION 7 HANDLING AND STORAGE

Keep away from ignition sources. Do not expose and empty containers to heat. Keep container closed when not in use. Use in adequate ventilation.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection: NIOSH/MSHA-approved respirator

Ventilation

- Local Exhaust
- Mechanical

Protective Gloves: Impervious gloves

Eye Protection: Splash Goggles and faceshield

Other Protective Equipment: Wear appropriate clothing to prevent skin exposure

Product name - United States – Pyridine

Exposure limits

ACGIH (United States, 1/2008).
TWA: 1 ppm 8 hour(s)
TWA: 5 ppm 8 hour/hours
TWA: 15 mg/m3 8 hour/hours
TWA: 15 mg/m3 8 hour/hours Form: All forms
TWA: 5 ppm 8 hour/hours Form: All forms

NIOSH REL (United States, 6/2008)
TWA: 5 ppm 10 hour(s)
TWA: 15 mg/m3 10 hour(s)
OSHA PEL (United States, 11/2006)
TWA: 15 mg/m3 8 hour(s)
TWA: 5 ppm 8 hour(s)

NIOSH REL (United States, 12/2001).
TWA: 15 mg/m3 10 hour(s) Form: All forms
TWA: 5 ppm 10 hour(s) Form: All forms
OSHA PEL (United States, 8/1997)
TWA: 15 mg/m3 8 hour(s) Form: All forms
TWA: 5 ppm 8 hour(s) Form: All forms

ACGIH TLV (United States, 1/2006). Notes: ACGIH 2004 Adoption
TWA: 1 ppm 8 hour(s). Form: All forms

Engineering measures: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, and using the lavatory and at the end of the working period. Appropriate techniques should be...
used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Recommended: Viton

Eyes: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
Recommended: splash goggles

Skin: Personal protective equipment for the body should be selected based on the task being performed and risks involved and should be approved by a specialist before handling this product.
Body recommended: lab coat

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Melting Point</td>
<td>-44°C</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>116°C</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>10 mm Hg</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>2.72</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Soluble</td>
</tr>
<tr>
<td>Appearance /Odors</td>
<td>Water white liquid, obnoxious odor</td>
</tr>
<tr>
<td>Flash Point</td>
<td>20°C (68°F)</td>
</tr>
<tr>
<td>Specific Gravity</td>
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SECTION 10 STABILITY AND REACTIVITY INFORMATION

<table>
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<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Stability</td>
<td>Stable</td>
</tr>
<tr>
<td>Conditions to Avoid</td>
<td>Heat, flame or oxidizers</td>
</tr>
</tbody>
</table>
Pyridine

Materials to Avoid: Exothermic reaction with acids and oxidizing agents
Hazardous Decomposition Products: Toxic fumes or cyanides and possibly ammonia.
Hazardous polymerization: Will Not Occur
Conditions to Avoid: None known

SECTION 11 Toxicological Information

<table>
<thead>
<tr>
<th>TEST</th>
<th>ROUTE</th>
<th>SPECIES</th>
<th>RESULT</th>
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<tr>
<td>LD50</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>1121 mg/kg</td>
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<tr>
<td>LD50</td>
<td>Intraperitoneal</td>
<td>Rat</td>
<td>866 mg/kg</td>
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<tr>
<td>LD50</td>
<td>Intravenous</td>
<td>Rat</td>
<td>360 mg/kg</td>
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<tr>
<td>LD50</td>
<td>Oral</td>
<td>Rat</td>
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<td>LD50</td>
<td>Oral</td>
<td>Mammal</td>
<td>1500 mg/kg</td>
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<tr>
<td>LD50</td>
<td>Oral</td>
<td>Mouse</td>
<td>1500 mg/kg</td>
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<tr>
<td>LD50</td>
<td>Subcutaneous</td>
<td>Rat</td>
<td>866 mg/kg</td>
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<tr>
<td>LDLo</td>
<td>Oral</td>
<td>Mouse</td>
<td>1000 mg/kg</td>
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<tr>
<td>LC50</td>
<td>Inhalation Vapor</td>
<td>Rat</td>
<td>28500 mg/kg</td>
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</table>

Carcinogenicity Classification- Product/ingredient name Pyridine
- ACGIH: A3
- IARC: 3
No known significant effects or critical hazards

Mutagenicity
No known significant effects or critical hazards

Teratogenicity
No known significant effects or critical hazards

SECTION 12 Ecological Information

Aquatic ecotoxicity- product/ingredient name- Pyridine

Acute LC50 106 mg/L- Fish- 96 hours
Acute LC50 99 mg/L- Fish- 96 hours
Acute LC50 93.8 mg/L- Fish- 96 hours
Acute LC50 26 mg/L- Fish- 96 hours
Acute LC50 4.6 mg/L- Fish- 96 hours
Acute LC50 1140000 ug/L fresh water- Daphnia- water flea- daphnia magna- <24 hours- 48 hours
Acute LC50 1120000 ug/L fresh water- Daphnia- water flea- daphnia magna- <24 hours- 48 hours
Acute LC50 944000 ug/L fresh water- Daphnia- water flea- daphnia magna- 48 hours
Acute LC50 630000 ug/L fresh water- Daphnia- water flea- daphnia pulex- <24 hours- 48 hours
Acute LC50 520000 ug/L fresh water- Daphnia- water flea- daphnia pulex- <24 hours- 48 hours
Acute LC50 220000 ug/L fresh water- Crustaceans- Aquatic sowbug- Asellus aquaticus- 48 hours
Acute LC50 99000 ug/L fresh water- Fish - Fethead minnow- Pimephales promelas- Juvenile (Fledgling, Hatchling, Weanling) - 26 to 34 days- 96 hours
Acute LC50 938000 to 1030000 ug/L fresh water- Fish- Fathead minnow - Pimephales promelas - 31 days - 18.1 mm - 0.1 g- 96 hours
Acute LC50 68300 to 736000 ug/L fresh water- Fish- Fathead minnow - Pimephales promelas - 30 days - 96 hours
Acute LC50 26000 ug/L fresh water- Fish - Cyprinus carpio - 4 to 5 cm- 96 hours
Acute LC50 6300 ug/L fresh water- Fish - Sockeye salmon- Oncorhynchus nerka- Juvenile (Fledgling, Hatchling, Weanling) - 96 hours
Acute LC50 46000 ug/L fresh water- Fish - Raininbow trout- donaldson trout- Oncorhynchus mykiss- Juvenile (Fledgling, Hatchling, Weanling) - 96 hours
Acute LC50 380000 ug/L fresh water- Fish - Coho salmon, silver salmon- Oncorhynchus kisutch- Juvenile (Fledgling, Hatchling, Weanling) - 96 hours
Acute LC50 370000 ug/L fresh water - Fish Chum salmon- Oncorhynchus keta- Juvenile (Fledgling, Hatchling, Weanling) - 96 hours
Acute LC50 290000 ug/L fresh water- Fish - Chinook salmon- Oncorhynchus tshawytscha- Juvenile (Fledgling, Hatchling, Weanling) - 96 hours
**Pyridine**

**Acute LC50** 1100 ug/L fresh water - Pink salmon - Oncorhynchus gorbuscha- Juvenile (Fledgling, Hatchling, Weanling) - 96 hours
Acute LC50 2550000 ug/L fresh water - Daphnia - Water flea - Daphnia Cucullata - <24 hours - 48 hours
Acute LC50 2390000 ug/L fresh water - Daphnia - Water flea - Daphnia cucullata - <24 hours - 48 hours
Acute LC50 1940000 ug/L fresh water - Daphnia - Water flea - Daphnia magna - <24 hours - 48 hours
Acute LC50 1570000 ug/L fresh water - Daphnia - Water flea - Daphnia magna - <24 hours - 48 hours
Acute LC50 1210000 ug/L fresh water - Daphnia - Water flea - Daphnia magna - <24 hours - 48 hours

Environmental effects: No known significant effects or critical hazards.
Other adverse effects: No known significant effects or critical hazards.

**SECTION 13 Disposal Considerations**

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

**SECTION 14 Transport Information**

**Domestic (Land, D.O.T.)**

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Proper Shipping Name: PYRIDINE
Hazard Class: 3
UN/NA: UN1282
Packing Group: II
Information reported for product/size: 441LB

**International (Water, I.M.O.)**

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Proper Shipping Name: PYRIDINE
Hazard Class: 3
UN/NA: UN1282
Packing Group: II
Information reported for product/size: 441LB

**DOT Classification:**

UN1282, Pyridine, 3, PG II

DOT Regulations may change from time to time. Please consult the most recent D.O.T. regulations.

**SECTION 15 Regulatory Information**

**United States**

HCS Classification:
- Flammable liquid
- Toxic material
- Irritating material
- Target organ effects

U.S. Federal regulations:

United States inventory (TSCA 8b): This material is listed or exempted.
TSCA (Toxic Substance Control Act): This product is listed on the TSCA Inventory.
SARA 302/304/313/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notifications: No products were found.
SARA 302/304/313/312 hazardous chemicals: Pyridine
SARA 311/312 MSDS distribution- Chemical inventory- hazard identification: Pyridine: Fire Hazard Immediate (acute) health hazard, Delayed (chronic) health hazard
Clean Water Act (CWA) 307: No products were found
Clean Water Act (CWA) 311: No products were found
Clean Air Act (CAA) 112 accidental release prevention: No products were found
Clean Air Act (CAA) 112 regulated flammable substance: No products were found.
Clean Air Act (CAA) 112 regulated toxic substance: No products were found

DEA List I Chemicals: not listed
**Pyridine**

(Precursor Chemicals)
DEA List II Chemicals: not listed
(essential Chemicals)

SARA 313
Form R – Reporting Requirements: Pyridine
CAS number: 110-86-1 Concentration: 100
Supplier notification: Pyridine
CAS number: 110-86-1 Concentration: 100
SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

Canada
WHMIS (Canada):
Class B-2: Flammable liquid
Class D-2B: Material causing other toxic effects (Toxic).
Canadian lists: CEPA Toxic Substance: This material is not listed.
Canadian ARET: This material is not listed.
Canadian NPRI: This material is not listed.
Alberta Designated Substances: This material is not listed.
Ontario Designated Substances: This material is not listed.
Quebec Designated Substances: This material is not listed.

### SECTION 16  Additional Information

Flammability
3 3 1

Health
Reactivity

NFPA

Revisions
0.3 Creation date LS

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