

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

1.1. Product identifier

Product form : Mixture
Product name : Pyridine-Barbituric Acid Reagent
Product code : LC22190

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : For laboratory and manufacturing use only.

1.3. Details of the supplier of the safety data sheet

LabChem Inc
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

Supplied By:



4621 Technology Drive, Golden, CO 80403
ph: (303) 762-0800 fax: (303) 762-1240

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or 011-703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute Tox. 4 (Oral) H302
Skin Irrit. 2 H315
Eye Irrit. 2A H319
Aquatic Acute 2 H401

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS07

Signal word (GHS-US) :

Warning

Hazard statements (GHS-US) :

H302 - Harmful if swallowed
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H401 - Toxic to aquatic life

Precautionary statements (GHS-US) :

P264 - Wash exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P273 - Avoid release to the environment
P280 - Wear protective gloves, eye protection
P301+P312 - IF SWALLOWED: call a POISON CENTER or doctor/physician if you feel unwell
P302+P352 - IF ON SKIN: Wash with plenty of soap and water
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P330 - If swallowed, rinse mouth
P332+P313 - If skin irritation occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P501 - Dispose of contents/container to comply with local, state and federal regulations

2.3. Other hazards

Other hazards not contributing to the classification :

None under normal conditions.

2.4. Unknown acute toxicity (GHS-US)

No data available

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SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

Full text of H-phrases: see section 16

3.2. Mixture

| Name | Product identifier | % | GHS-US classification |
|----------------------------|--------------------|-------------|--|
| Water | (CAS No) 7732-18-5 | 61.6 - 62.6 | Not classified |
| Pyridine | (CAS No) 110-86-1 | 30 | Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Aquatic Acute 2, H401 |
| Barbituric Acid | (CAS No) 67-52-7 | 5 - 6 | Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 |
| Hydrochloric Acid, 37% w/w | (CAS No) 7647-01-0 | 2.4 | Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 3, H402 |

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|--|
| First-aid measures general | : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). |
| First-aid measures after inhalation | : Assure fresh air breathing. Allow the victim to rest. |
| First-aid measures after skin contact | : Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. |
| First-aid measures after eye contact | : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. |
| First-aid measures after ingestion | : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER/doctor/physician if you feel unwell. |

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

| | |
|--------------------------------------|--|
| Symptoms/injuries after skin contact | : Causes skin irritation. |
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |
| Symptoms/injuries after ingestion | : Swallowing a small quantity of this material will result in serious health hazard. |

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

Obtain medical assistance.

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|--------------------------------|--|
| Suitable extinguishing media | : Foam. Dry powder. Carbon dioxide. Water spray. Sand. |
| Unsuitable extinguishing media | : Do not use a heavy water stream. |

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

| | |
|--------------------------------|---|
| Firefighting instructions | : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. |
| Protection during firefighting | : Do not enter fire area without proper protective equipment, including respiratory protection. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

| | |
|----------------------|---|
| Protective equipment | : Safety glasses. Gloves. Combined gas/dust mask with filter type A/P2. |
| Emergency procedures | : Evacuate unnecessary personnel. |

6.1.2. For emergency responders

| | |
|----------------------|--|
| Protective equipment | : Equip cleanup crew with proper protection. |
| Emergency procedures | : Ventilate area. |

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6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour.
Hygiene measures : Do not eat, drink or smoke when using this product. Wash exposed skin thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Ignition sources, Heat sources, incompatible materials. Keep container closed when not in use. Refrigerate.
Incompatible products : Strong oxidizers.
Incompatible materials : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Pyridine (110-86-1) | | |
|---------------------|-------------------------------------|-----------------------|
| USA ACGIH | ACGIH TWA (mg/m ³) | 3.1 mg/m ³ |
| USA ACGIH | ACGIH TWA (ppm) | 1 ppm |
| USA ACGIH | ACGIH STEL (ppm) | 1 ppm |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 15 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 5 ppm |

8.2. Exposure controls

Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation.
Personal protective equipment : Avoid all unnecessary exposure.
Hand protection : Wear protective gloves.
Eye protection : Chemical goggles or safety glasses.
Skin and body protection : Wear suitable protective clothing.
Respiratory protection : Wear appropriate mask.
Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Colour : Colourless.
Odour : characteristic.
Odour threshold : No data available
pH : No data available
Relative evaporation rate (butylacetate=1) : No data available
Melting point : No data available
Freezing point : No data available
Boiling point : No data available
Flash point : No data available

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| | |
|----------------------------------|---------------------|
| Self ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapour pressure | : No data available |
| Relative vapour density at 20 °C | : No data available |
| Relative density | : No data available |
| Solubility | : Soluble in water. |
| Log Pow | : No data available |
| Log Kow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| Explosive limits | : No data available |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Unstable on exposure to heat.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Nitrogen oxides. Carbon monoxide. Carbon dioxide. Hydrogen chloride.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed.

| Pyridine (110-86-1) | |
|----------------------------|---------------------|
| LD50 oral rat | > 891 mg/kg (Rat) |
| LD50 dermal rabbit | 1120 mg/kg (Rabbit) |
| LC50 inhalation rat (mg/l) | 14.25 mg/l/4h |

| Hydrochloric Acid, 37% w/w (7647-01-0) | |
|--|------------|
| LD50 oral rat | 700 mg/kg |
| LD50 dermal rabbit | 5010 mg/kg |

| Water (7732-18-5) | |
|-------------------|---------------|
| LD50 oral rat | ≥ 90000 mg/kg |

| Barbituric Acid (67-52-7) | |
|---------------------------|--------------------|
| LD50 oral rat | > 5000 mg/kg (Rat) |

| | |
|-----------------------------------|----------------------------------|
| Skin corrosion/irritation | : Causes skin irritation. |
| Serious eye damage/irritation | : Causes serious eye irritation. |
| Respiratory or skin sensitisation | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |

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| Pyridine (110-86-1) | |
|---------------------|----------------------|
| IARC group | 3 - Not classifiable |

| Hydrochloric Acid, 37% w/w (7647-01-0) | |
|--|----------------------|
| IARC group | 3 - Not classifiable |

| | |
|---|---|
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity (single exposure) | : Not classified |
| Specific target organ toxicity (repeated exposure) | : Not classified |
| Aspiration hazard | : Not classified |
| Potential Adverse human health effects and symptoms | : Based on available data, the classification criteria are not met. Harmful if swallowed. |
| Symptoms/injuries after skin contact | : Causes skin irritation. |
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |
| Symptoms/injuries after ingestion | : Swallowing a small quantity of this material will result in serious health hazard. |
| Likely routes of exposure | : Inhalation;Skin and eye contact |

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Toxic to aquatic life.

| Pyridine (110-86-1) | |
|---|--|
| LC50 fishes 1 | 4.6 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss) |
| LC50 other aquatic organisms 1 | 1400 mg/l (48 h; Bufo sp.) |
| EC50 Daphnia 1 | 240 mg/l (24 h; Daphnia magna) |
| LC50 fish 2 | 26 mg/l (96 h; Cyprinus carpio) |
| EC50 Daphnia 2 | 495 mg/l (48 h; Daphnia magna) |
| TLM fish 1 | 1350 mg/l (24 h; Gambusia affinis; Turbulent water) |
| TLM fish 2 | 1350 mg/l (96 h; Pisces) |
| TLM other aquatic organisms 1 | 100 - 1000,96 h |
| Threshold limit other aquatic organisms 1 | 1400 mg/l (48 h; Bufo sp.) |
| Threshold limit algae 1 | 28 mg/l (192 h; Microcystis aeruginosa) |
| Threshold limit algae 2 | 120 mg/l (168 h; Scenedesmus quadricauda) |

| Hydrochloric Acid, 37% w/w (7647-01-0) | |
|--|---|
| LC50 fishes 1 | 282 mg/l (96 h; Gambusia affinis; Pure substance) |
| EC50 Daphnia 1 | < 56 mg/l (72 h; Daphnia magna; Pure substance) |
| LC50 fish 2 | 862 mg/l (Leuciscus idus; Pure substance) |
| TLM fish 1 | 282 ppm (96 h; Gambusia affinis; Pure substance) |

12.2. Persistence and degradability

| Pyridine-Barbituric Acid Reagent | |
|----------------------------------|------------------|
| Persistence and degradability | Not established. |

| Pyridine (110-86-1) | |
|---------------------------------|---|
| Persistence and degradability | Readily biodegradable in water. Non degradable in the soil. Biodegradable in the soil under anaerobic conditions. |
| Biochemical oxygen demand (BOD) | 1.15 g O ² /g substance |
| Chemical oxygen demand (COD) | 0.05 g O ² /g substance |
| ThOD | 2.23 g O ² /g substance |
| BOD (% of ThOD) | 0.52 % ThOD |

| Hydrochloric Acid, 37% w/w (7647-01-0) | |
|--|---|
| Persistence and degradability | Biodegradability: not applicable. No (test)data on mobility of the components of the mixture available. |
| Biochemical oxygen demand (BOD) | Not applicable |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |

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| Hydrochloric Acid, 37% w/w (7647-01-0) | |
|--|----------------|
| BOD (% of ThOD) | Not applicable |

| Water (7732-18-5) | |
|-------------------------------|------------------|
| Persistence and degradability | Not established. |

| Barbituric Acid (67-52-7) | |
|-------------------------------|---|
| Persistence and degradability | Biodegradability in water: no data available. |

12.3. Bioaccumulative potential

| Pyridine-Barbituric Acid Reagent | |
|----------------------------------|------------------|
| Bioaccumulative potential | Not established. |

| Pyridine (110-86-1) | |
|---------------------------|--|
| Log Pow | 0.65 - 1.04 (Experimental value) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |

| Hydrochloric Acid, 37% w/w (7647-01-0) | |
|--|--|
| Log Pow | 0.25 (QSAR) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |

| Water (7732-18-5) | |
|---------------------------|------------------|
| Bioaccumulative potential | Not established. |

| Barbituric Acid (67-52-7) | |
|---------------------------|------------------------------------|
| Bioaccumulative potential | No bioaccumulation data available. |

12.4. Mobility in soil

| Pyridine (110-86-1) | |
|---------------------|-------------------|
| Surface tension | 0.038 N/m (20 °C) |

| Hydrochloric Acid, 37% w/w (7647-01-0) | |
|--|---|
| Ecology - soil | May be harmful to plant growth, blooming and fruit formation. |

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with local, state and federal regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

No dangerous good in sense of transport regulations

Additional information

Other information : No supplementary information available.

ADR

Transport document description :

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

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Pyridine (110-86-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Listed on SARA Section 313 (Specific toxic chemical listings)

RQ (Reportable quantity, section 304 of EPA's List of Lists) : 1000 lb

SARA Section 311/312 Hazard Classes Fire hazard
Immediate (acute) health hazard

Hydrochloric Acid, 37% w/w (7647-01-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

RQ (Reportable quantity, section 304 of EPA's List of Lists) : 5000 lb

SARA Section 311/312 Hazard Classes Immediate (acute) health hazard

Water (7732-18-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Barbituric Acid (67-52-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

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WHMIS Classification Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Pyridine (110-86-1)

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification Class B Division 2 - Flammable Liquid
Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Hydrochloric Acid, 37% w/w (7647-01-0)

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification Class E - Corrosive Material

Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification Uncontrolled product according to WHMIS classification criteria

Barbituric Acid (67-52-7)

Listed on the Canadian DSL (Domestic Substances List) inventory.

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Classification according to Directive 67/548/EEC or 1999/45/EC

Not classified

15.2.2. National regulations

Pyridine (110-86-1)

Listed on the Canadian Ingredient Disclosure List

Hydrochloric Acid, 37% w/w (7647-01-0)

Listed on the Canadian Ingredient Disclosure List

Water (7732-18-5)

Not listed on the Canadian Ingredient Disclosure List

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Barbituric Acid (67-52-7)

Not listed on the Canadian Ingredient Disclosure List

15.3. US State regulations

Pyridine (110-86-1)

| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significance risk level (NSRL) |
|---|---|---|---|-----------------------------------|
| Yes | | | | |

SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

| | |
|-----------------------|--|
| Acute Tox. 4 (Dermal) | Acute toxicity (dermal), Category 4 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Aquatic Acute 2 | Hazardous to the aquatic environment — AcuteHazard, Category 2 |
| Aquatic Acute 3 | Hazardous to the aquatic environment — AcuteHazard, Category 3 |
| Eye Dam. 1 | Serious eye damage/eye irritation, Category 1 |
| Eye Irrit. 2A | Serious eye damage/eye irritation, Category 2A |
| Flam. Liq. 2 | Flammable liquids, Category 2 |
| Skin Corr. 1B | Skin corrosion/irritation, Category 1B |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| STOT SE 3 | Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation |
| H225 | Highly flammable liquid and vapour |
| H302 | Harmful if swallowed |
| H312 | Harmful in contact with skin |
| H314 | Causes severe skin burns and eye damage |
| H315 | Causes skin irritation |
| H318 | Causes serious eye damage |
| H319 | Causes serious eye irritation |
| H335 | May cause respiratory irritation |
| H401 | Toxic to aquatic life |
| H402 | Harmful to aquatic life |

NFPA health hazard

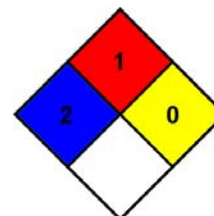
: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard

: 1 - Must be preheated before ignition can occur.

NFPA reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 1 Slight Hazard

Physical : 0 Minimal Hazard

Personal Protection : G

SDS US (GHS HazCom 2012)

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