Luminol Reagent
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Revision date: 01/05/2015  Supersedes:10/26/2011  Version:

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

1.1. Product identifier
Product form : Mixture
Product name. : Luminol Reagent
Product code : 288L1

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/preparation : Crime Scene Investigation

1.3. Details of the supplier of the safety data sheet
SIRCHIE Finger Print Laboratories
100 Hunter Place
27596 Youngsville, NC - USA
T 919-554-2244; 800-356-7311 - F 919-554-2266; 800-899-8181
http://www.sirchie.com

1.4. Emergency telephone number
Emergency number : 1.800.424.9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification (GHS-US)
Eye Dam. 1 : H318
Repr. 1B : H360

2.2. Label elements
GHS-US labeling
Hazard pictograms (GHS-US) :

Signal word (GHS-US) : Danger
Hazard statements (GHS-US) : H318 - Causes serious eye damage
H360 - May damage fertility or the unborn child
Precautionary statements (GHS-US) : P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P280 - Wear eye protection, protective gloves.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - IF exposed or concerned: Get medical advice/attention
P310 - Immediately call a POISON CENTER/doctor/…
P405 - Store locked up
P501 - Dispose of contents/container to local/regional/national/international 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

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium carbonate, monohydrate</td>
<td>(CAS No.)5968-11-6</td>
<td>&lt;= 86</td>
<td>Eye Irrit. 2A, H319</td>
</tr>
<tr>
<td>sodiumperborate (NaBO3), tetrahydrate, containing &lt; 0.1 % (w/w) of particles with an aerodynamic diameter &lt; 50 µm</td>
<td>(CAS No.)10486-00-7</td>
<td>&lt;= 12</td>
<td>Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 Repr. 1B, H360 STOT SE 3, H335</td>
</tr>
<tr>
<td>3-aminophthalhydrazide</td>
<td>(CAS No.)521-31-3</td>
<td>&lt; 2</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
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:
Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact:
Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.

First-aid measures after ingestion:
Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms/injuries:
Not expected to present a significant hazard under anticipated conditions of normal use.

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:

Unsuitable extinguishing media:
Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture
Reactivity:
No reactivity hazard other than the effects described in sub-sections below.

5.3. Advice for firefighters
Firefighting instructions:
Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter 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
Emergency procedures:
Evacuate unnecessary personnel.

6.1.2. For emergency responders
Protective equipment:
Equip cleanup crew with proper protection.

Emergency procedures:
Ventilate area.

6.2. Environmental precautions
Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up:
On land, sweep or shovel into suitable containers. Minimize generation of dust. 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 eat, drink or smoke and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

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 : Keep container closed when not in use.

Incompatible products:
Strong bases. strong acids.

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

| sodiumperborate (NaBO3), tetrahydrate, containing < 0.1 % (w/w) of particles with an aerodynamic diameter < 50 μm (10486-00-7) |
|---|---|---|
| USA ACGIH | ACGIH TWA (mg/m³) | 2 mg/m³ |

27/02/2013 EN (English US) 2/6
sodiumperborate (NaBO₃), tetrahydrate, containing < 0.1 % (w/w) of particles with an aerodynamic diameter < 50 µm (10486-00-7)

<table>
<thead>
<tr>
<th>USA ACGIH</th>
<th>ACGIH STEL (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6 mg/m³</td>
</tr>
</tbody>
</table>

### 8.2. Exposure controls

**Personal protective equipment**: Avoid all unnecessary exposure. Gas mask. Gloves. Safety glasses.

**Hand protection**: Wear protective gloves.

**Eye protection**: Chemical goggles or safety glasses.

**Respiratory protection**: Wear approved mask.

**Other information**: When using, do not eat, drink or smoke.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

- **Physical state**: Solid
- **Appearance**: Powders.
- **Color**: white.
- **Odor**: odorless.
- **Odor threshold**: No data available
- **pH**: No data available
- **Relative evaporation rate (butyl acetate=1)**: No data available
- **Melting point**: No data available
- **Freezing point**: No data available
- **Boiling point**: No data available
- **Flash point**: No data available
- **Self ignition temperature**: No data available
- **Decomposition temperature**: No data available
- **Flammability (solid, gas)**: No data available
- **Vapor pressure**: No data available
- **Relative vapor 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
- **Oxidizing 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 reactivity hazard other than the effects described in sub-sections below.

#### 10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

#### 10.3. Possibility of hazardous reactions

No reactivity hazard other than the effects described in sub-sections below.

#### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

#### 10.5. Incompatible materials

Strong acids. Strong bases.
### 10.6. Hazardous decomposition products


### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

**Acute toxicity**

- **sodium carbonate, monohydrate (5968-11-6)**
  - LD50 oral rat: > 4090 mg/kg (Rat)

- **sodiumperborate (NaBO3), tetrahydrate, containing < 0.1 % (w/w) of particles with an aerodynamic diameter < 50 µm (10486-00-7)**
  - LD50 oral rat: 1200 mg/kg (Rat)

**Skin corrosion/irritation**

- Not classified

**Serious eye damage/irritation**

- Causes serious eye damage.

**Respiratory or skin sensitization**

- Not classified

**Germ cell mutagenicity**

- Not classified

**Carcinogenicity**

- Not classified

**Reproductive toxicity**

- May damage fertility or the unborn child. Based on available data, the classification criteria are not met

**Germ cell mutagenicity**

- Not classified

**Carcinogenicity**

- Not classified

**Reproductive toxicity**

- May damage fertility or the unborn child. Based on available data, the classification criteria are not met

**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.

### SECTION 12: Ecological information

#### 12.1. Toxicity

**sodium carbonate, monohydrate (5968-11-6)**

- LC50 fish 1: 300 mg/l (96 h; Lepomis macrochirus; ANHYDROUS FORM)
- EC50 Daphnia 1: 265 mg/l (48 h; Daphnia magna; ANHYDROUS FORM)
- EC50 Daphnia 2: 14 mg/l (168 h; Planктon; ANHYDROUS FORM)
- LC50 fish 2: 740 mg/l (96 h; Gambusia affinis; ANHYDROUS FORM)
- EC50 Daphnia 2: < 424 mg/l (48 h; Daphnia magna; ANHYDROUS FORM)
- TLM fish 1: 300 ppm (96 h; Lepomis macrochirus; ANHYDROUS FORM)

**sodiumperborate (NaBO3), tetrahydrate, containing < 0.1 % (w/w) of particles with an aerodynamic diameter < 50 µm (10486-00-7)**

- LC50 fish 1: 51 mg/l (96 h; Brachydanio rerio; MONOHYDRATE)
- EC50 Daphnia 1: 11 mg/l (48 h; Daphnia magna; MONOHYDRATE)
- EC50 other aquatic organisms 1: 26.8 mg/l (96 h; Scenedesmus subspicatus; MONOHYDRATE)
- Threshold limit algae 2: < 3.5 mg/l (96 h; Scenedesmus subspicatus; MONOHYDRATE)

**3-aminophthalhydrazide (521-31-3)**

- Persistence and degradability: Biodegradability in water: no data available.

**sodium carbonate, monohydrate (5968-11-6)**

- Persistence and degradability: Biodegradability: not applicable.
- Biochemical oxygen demand (BOD): Not applicable
- Chemical oxygen demand (COD): Not applicable
- ThOD: Not applicable
- BOD (% of ThOD): Not applicable

**sodiumperborate (NaBO3), tetrahydrate, containing < 0.1 % (w/w) of particles with an aerodynamic diameter < 50 µm (10486-00-7)**

- Persistence and degradability: Biodegradability: not applicable. Hydrolysis in water.
- Biochemical oxygen demand (BOD): Not applicable
- Chemical oxygen demand (COD): Not applicable
- ThOD: Not applicable
sodiumperborate (NaBO₃), tetrahydrate, containing < 0.1 % (w/w) of particles with an aerodynamic diameter < 50 µm (10486-00-7)

BOD (% of ThOD)  Not applicable

12.3. Bioaccumulative potential

Luminol Reagent

Bioaccumulative potential  Not established.

3-aminophthalhydrazide (521-31-3)

Log Pow  0.74 (Estimated value)
Bioaccumulative potential  Low potential for bioaccumulation (Log Kow < 4).

sodium carbonate, monohydrate (5968-11-6)

Log Pow  Not applicable
Bioaccumulative potential  Not bioaccumulative.

sodiumperborate (NaBO₃), tetrahydrate, containing < 0.1 % (w/w) of particles with an aerodynamic diameter < 50 µm (10486-00-7)

Log Pow  Not applicable
Bioaccumulative potential  No bioaccumulation data available.

12.4. Mobility in soil

No additional information available

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.
Ecology - waste materials  Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA

14.1. UN number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Additional information

Other information  No supplementary information available.

Overland transport

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Luminol Reagent

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

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]
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Classification according to Directive 67/548/EEC or 1999/45/EC
Not classified

15.2.2. National regulations
No additional information available

15.3. US State regulations
No additional information available

SECTION 16: Other information

Indication of changes : Revision - See : *.


Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging. Keep in tightly closed container. Keep cool and dry. Avoid all ignition sources - heat, open flame, sparks. Avoid incompatible materials. Avoid dust creation and accumulation. Avoid inhalation and ingestion. Avoid contact with eyes. Wash thoroughly after handling.

Other information : This Safety Data Sheet has been established in accordance with the applicable European Union legislation.

Full text of H-phrases: see section 16:

<table>
<thead>
<tr>
<th>Acute Tox. 4 (Oral)</th>
<th>Acute toxicity (oral) Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation Category 1</td>
</tr>
<tr>
<td>Eye Irrit. 2A</td>
<td>Serious eye damage/eye irritation Category 2A</td>
</tr>
<tr>
<td>Repr. 1B</td>
<td>Reproductive toxicity Category 1B</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity (single exposure) Category 3</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
<tr>
<td>H360</td>
<td>May damage fertility or the unborn child</td>
</tr>
</tbody>
</table>

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 : 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.

NFPA specific hazard : OX - This denotes an oxidizer, a chemical which can greatly increase the rate of combustion/fire.

HMIS III Rating

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

Flammability : 1 Slight Hazard

Physical : 1 Slight Hazard

Personal Protection : G

SDS US (GHS HazCom 2012)

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