SECTION 1: Identification

1.1. Identification

Product form: Mixture
Product name: Ammonium Chloride-EDTA Solution
Product code: LC11020

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

1.4. Emergency telephone number

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

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification: Not classified

2.2. Label elements

No labeling obligation.

2.3. Other hazards

Other hazards not contributing to the classification: None.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>(CAS No) 7732-18-5</td>
<td>98.3</td>
<td>Not classified</td>
</tr>
<tr>
<td>Ammonium Chloride</td>
<td>(CAS No) 12125-02-9</td>
<td>1.3</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
<tr>
<td>Ammonium Hydroxide, ACS</td>
<td>(CAS No) 1336-21-6</td>
<td>0.23</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (Inhalation:vapour), H332</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Corr. 1C, H314</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1, H318</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Acute 1, H400</td>
</tr>
<tr>
<td>EDTA, Disodium, Dihydrate</td>
<td>(CAS No) 6381-92-6</td>
<td>0.17</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Irrit. 2, H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2A, H319</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3, H335</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements: see section 16

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: Allow victim to breathe fresh air. 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

Obtain medical assistance.

SECTION 5: Firefighting measures

5.1. Extinguishing media


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.

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: 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 vapor.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Keep container closed when not in use.

Incompatible products: Sodium hypochlorite. Strong acids.


SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Ammonium Chloride (12125-02-9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
</tr>
<tr>
<td>ACGIH</td>
</tr>
</tbody>
</table>
Ammonium Chloride-EDTA Solution
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Ammonium Chloride (12125-02-9)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NIOSH NIOSH REL (TWA) (mg/m³)</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>NIOSH NIOSH REL (STEL) (mg/m³)</td>
<td>20 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EDTA, Disodium, Dihydrate (6381-92-6)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ammonium Hydroxide, ACS (1336-21-6)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH ACGIH TWA (mg/m³)</td>
<td>17 mg/m³</td>
</tr>
<tr>
<td>ACGIH ACGIH STEL (mg/m³)</td>
<td>24 mg/m³</td>
</tr>
<tr>
<td>OSHA OSHA PEL (TWA) (mg/m³)</td>
<td>35 mg/m³</td>
</tr>
<tr>
<td>OSHA OSHA PEL (TWA) (ppm)</td>
<td>50 ppm</td>
</tr>
<tr>
<td>IDLH US IDLH (ppm)</td>
<td>300 ppm</td>
</tr>
<tr>
<td>NIOSH NIOSH REL (TWA) (mg/m³)</td>
<td>18 mg/m³</td>
</tr>
<tr>
<td>NIOSH NIOSH REL (TWA) (ppm)</td>
<td>25 ppm</td>
</tr>
<tr>
<td>NIOSH NIOSH REL (STEL) (mg/m³)</td>
<td>27 mg/m³</td>
</tr>
<tr>
<td>NIOSH NIOSH REL (STEL) (ppm)</td>
<td>35 ppm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water (7732-18-5)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>

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. Provide adequate general and local exhaust ventilation.

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

Hand protection: Wear protective gloves.

Eye protection: Chemical goggles or safety glasses.

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
Color: Colorless
Odor: characteristic Ammoniacal.
Odor threshold: No data available
pH: No data available
Melting point: No data available
Freezing point: No data available
Boiling point: No data available
Flash point: No data available
Relative evaporation rate (butyl acetate=1): No data available
Flammability (solid, gas): Non flammable.
Vapor pressure: No data available
Relative vapor density at 20 °C: No data available
Relative density: No data available
Specific gravity / density: 1 g/ml
Solubility: Miscible with water.
**Ammonium Chloride-EDTA Solution**

**Safety Data Sheet**

 according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>None.</td>
</tr>
</tbody>
</table>

**9.2. Other information**

No additional information available

**SECTION 10: Stability and reactivity**

10.1. Reactivity
No additional information available

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

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 acids. Strong bases.

10.6. Hazardous decomposition products
Gaseous ammonia. Nitrogen oxides.

**SECTION 11: Toxicological information**

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Likely routes of exposure</th>
<th>Value</th>
</tr>
</thead>
</table>
| Skin and eye contact      | Ammonium Chloride-EDTA Solution
LD50 oral rat              | 60092 mg/kg            |
ATE US (oral)              | 60092.000 mg/kg body weight |

Ammonium Chloride (12125-02-9)

LD50 oral rat              | 1650 mg/kg (Rat; Literature study) |
ATE US (oral)              | 1650.000 mg/kg body weight |

EDTA, Disodium, Dihydrate (6381-92-6)

LD50 oral rat              | 2000 mg/kg            |
ATE US (oral)              | 2000.000 mg/kg body weight |

Ammonium Hydroxide, ACS (1336-21-6)

LD50 oral rat              | 350 mg/kg            |
ATE US (oral)              | 350.000 mg/kg body weight |
ATE US (vapors)            | 10.714 mg/l/4h       |

Water (7732-18-5)

LD50 oral rat              | ≥ 90000 mg/kg        |
ATE US (oral)              | 90000.000 mg/kg body weight |

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
### SECTION 12: Ecological information

#### 12.1. Toxicity

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50 Daphnia 1</th>
<th>Threshold limit algae 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium Chloride (12125-02-9)</td>
<td>161 mg/l (EC50; 48 h)</td>
<td>&lt; 70 mg/l (EC50; 240 h)</td>
</tr>
<tr>
<td>EDTA, Disodium, Dihydrate (6381-92-6)</td>
<td>&gt;= 500 mg/l</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50 fish 1</th>
<th>EC50 Daphnia 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium Hydroxide, ACS (1336-21-6)</td>
<td>0.16 - 1.1 mg/l (LC50; 96 h)</td>
<td>2.08 mg/l (LC50; 48 h)</td>
</tr>
</tbody>
</table>

#### 12.2. Persistence and degradability

- **Ammonium Chloride - EDTA Solution**: Not established.
- **Ammonium Chloride (12125-02-9)**: Readily biodegradable in water.
- **EDTA, Disodium, Dihydrate (6381-92-6)**: Not established.
- **Ammonium Hydroxide, ACS (1336-21-6)**: Readily biodegradable in water. Ozonation in water. Biodegradable in the soil. No test data on mobility of the components available. Ozonation in the air.
- **Water (7732-18-5)**: Not established.

#### 12.3. Bioaccumulative potential

- **Ammonium Chloride - EDTA Solution**: Not established.
- **Ammonium Chloride (12125-02-9)**: Log Pow -4.37 (Estimated value) Bioaccumulative potential Bioaccumulation: not applicable.
- **EDTA, Disodium, Dihydrate (6381-92-6)**: Not established.
- **Ammonium Hydroxide, ACS (1336-21-6)**: Log Pow -1.3 Bioaccumulative potential Bioaccumulation: not applicable.
- **Water (7732-18-5)**: Not established.

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

- **Effect on the global warming**: No known effects from this product.
**Ammonium Chloride-EDTA Solution**

**Safety Data Sheet**

---

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

<table>
<thead>
<tr>
<th>Waste disposal recommendations</th>
<th>Ecology - waste materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispose in a safe manner in accordance with local/national regulations.</td>
<td>Avoid release to the environment.</td>
</tr>
</tbody>
</table>

**SECTION 14: Transport information**

**Department of Transportation (DOT)**

In accordance with DOT

Not regulated

**SECTION 15: Regulatory information**

**15.1. US Federal regulations**

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

<table>
<thead>
<tr>
<th>Ammonium Hydroxide, ACS</th>
<th>CAS No 1336-21-6</th>
<th>0.23%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ammonium Chloride (12125-02-9)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RQ (Reportable quantity, section 304 of EPA's List of Lists)</td>
<td>5000 lb</td>
<td></td>
</tr>
<tr>
<td><strong>Ammonium Hydroxide, ACS (1336-21-6)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RQ (Reportable quantity, section 304 of EPA's List of Lists)</td>
<td>1000 lb</td>
<td></td>
</tr>
</tbody>
</table>

**15.2. International regulations**

**CANADA**

| **Ammonium Chloride-EDTA Solution** | | |
| WHMIS Classification | Class D Division 2 Subdivision B - Toxic material causing other toxic effects |
| **Ammonium Chloride (12125-02-9)** | | |
| WHMIS Classification | Class D Division 2 Subdivision B - Toxic material causing other toxic effects |
| **EDTA, Disodium, Dihydrate (6381-92-6)** | | |
| Listed on the Canadian DSL (Domestic Substances List) | | |
| WHMIS Classification | Class D Division 2 Subdivision B - Toxic material causing other toxic effects |
| **Ammonium Hydroxide, ACS (1336-21-6)** | | |
| WHMIS Classification | Class D Division 2 Subdivision B - Toxic material causing other toxic effects |
| **Water (7732-18-5)** | | |
| WHMIS Classification | Class E - Corrosive Material |

**EU-Regulations**

No additional information available

**National regulations**

**EDTA, Disodium, Dihydrate (6381-92-6)**

Not listed on the Canadian IDL (Ingredient Disclosure List)

**15.3. US State regulations**

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm
SECTION 16: Other information

Revision date: 11/16/2016
Other information: None.

Full text of H-phrases: see section 16:

- **H302** Harmful if swallowed
- **H314** Causes severe skin burns and eye damage
- **H315** Causes skin irritation
- **H318** Causes serious eye damage
- **H319** Causes serious eye irritation
- **H332** Harmful if inhaled
- **H335** May cause respiratory irritation
- **H400** Very toxic to aquatic life

**NFPA health hazard**: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
**NFPA fire hazard**: 0 - Materials that will not burn.
**NFPA reactivity**: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

**HMIS III Rating**

- **Health**: 1 Slight Hazard - Irritation or minor reversible injury possible
- **Flammability**: 0 Minimal Hazard - Materials that will not burn
- **Physical**: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.
- **Personal protection**: B
  - B - Safety glasses, Gloves

**SDS US LabChem**

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