# Ammonium Chloride-EDTA Solution

Safety Data Sheet

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

Date of issue: 12/11/2013 Version: 1.0

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

### 1.1. Product identifier

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.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**GHS-US classification**

Not classified

### 2.2. Label elements

**GHS-US labelling**

No labelling applicable

### 2.3. Other hazards

Other hazards not contributing to the classification : None.

### 2.4. Unknown acute toxicity (GHS-US)

No data available

## 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 | 98.3 | Not classified |
| Ammonium Chloride | (CAS No) 12125-02-9 | 1.3 | Acute Tox. 4 (Oral), H302<br>Eye Irrit. 2A, H319 |
| Ammonium Hydroxide, 28-30% w/w | (CAS No) 1336-21-6 | 0.23 | Acute Tox. 4 (Oral), H302<br>Skin Corr. 1A, H314<br>Aquatic Acute 1, H400 |
| EDTA, Disodium, Dihydrate | (CAS No) 6381-92-6 | 0.17 | Acute Tox. 4 (Oral), H302<br>Skin Irrit. 2, H315<br>Eye Irrit. 2A, H319<br>STOT SE 3, H335 |

## 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

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. 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

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 vapour.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container closed when not in use.

Incompatible products : Sodium hypochlorite. Strong acids.

Incompatible products : Heat sources. incompatible materials.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| Ammonium Chloride (12125-02-9) | | |
|---|---|---|
| USA ACGIH | ACGIH TWA (mg/m³) | 10 mg/m³ |

| Ammonium Chloride (12125-02-9) | | |
|---|---|---|
| USA ACGIH | ACGIH STEL (mg/m³) | 20 mg/m³ |

| Ammonium Hydroxide, 28-30% w/w (1336-21-6) | | |
|---|---|---|
| USA ACGIH | ACGIH TWA (mg/m³) | 17 mg/m³ |
| USA ACGIH | ACGIH TWA (ppm) | 25 ppm |
| USA ACGIH | ACGIH STEL (mg/m³) | 24 mg/m³ |
| USA ACGIH | ACGIH STEL (ppm) | 25 ppm |
| USA OSHA | OSHA PEL (TWA) (mg/m³) | 35 mg/m³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 50 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. Provide adequate general and local exhaust ventilation.

Personal protective equipment : Avoid all unnecessary exposure.

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

Colour : Colourless.

Odour : characteristic. Ammoniacal.

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

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

Density : 1 g/ml

Solubility : Miscible with water.

Log Pow : No data available

Log Kow : No data available

Viscosity, kinematic : No data available

Viscosity, dynamic : No data available

Explosive properties : Not applicable.

Oxidising properties : None.

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

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

Acute toxicity : Not classified

| Ammonium Chloride-EDTA Solution | |
|---|---|
| LD50 oral rat | 60092 mg/kg |

| Ammonium Chloride (12125-02-9) | |
|---|---|
| LD50 oral rat | 1650 mg/kg (Rat) |

| EDTA, Disodium, Dihydrate (6381-92-6) | |
|---|---|
| LD50 oral rat | 2000 mg/kg |

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

| Ammonium Hydroxide, 28-30% w/w (1336-21-6) | |
|---|---|
| LD50 oral rat | 350 mg/kg |

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

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.

## SECTION 12: Ecological information

### 12.1. Toxicity

| Ammonium Chloride (12125-02-9) | |
|---|---|
| LC50 fishes 1 | 209 mg/l (96 h; Cyprinus carpio; Ammonia) |
| EC50 Daphnia 1 | 161 mg/l (48 h; Daphnia magna; Static system) |
| LC50 fish 2 | 1.51 - 2.1 mg/l (96 h; Pimephales promelas; Ammonia) |
| EC50 Daphnia 2 | 50 mg/l (96 h; Daphnia magna; Static system) |
| TLM fish 1 | 6 mg/l (96 h; Lepomis macrochirus) |
| Threshold limit algae 1 | 5 ppm (672 h; Potamogeton sp.; O2 evolution) |
| Threshold limit algae 2 | < 70 mg/l (240 h; Algae; Nitrogen) |

| EDTA, Disodium, Dihydrate (6381-92-6) | |
|---|---|
| LC50 fishes 1 | >= 500 mg/l |

| Ammonium Hydroxide, 28-30% w/w (1336-21-6) | |
|---|---|
| LC50 fishes 1 | 0.16 - 1.1 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Solution >=50%) |
| LC50 other aquatic organisms 1 | 1 - 10 mg/l (96 h; Solution >=50%) |
| LC50 fish 2 | 0.75 - 3.4 mg/l (96 h; Pimephales promelas; Solution >=50%) |
| TLM fish 1 | 47 ppm (48 h; Salmo gairdneri (Oncorhynchus mykiss); Cool water) |
| TLM fish 2 | 34 ppm (48 h; Salmo gairdneri (Oncorhynchus mykiss); Warm water) |
| Threshold limit other aquatic organisms 1 | 1 - 10,96 h; Solution >=50% |

### 12.2. Persistence and degradability

| Ammonium Chloride-EDTA Solution | |
|---|---|
| Persistence and degradability | Not established. |

| Ammonium Chloride (12125-02-9) | |
|---|---|
| Persistence and degradability | Readily biodegradable in water. |

| EDTA, Disodium, Dihydrate (6381-92-6) | |
|---|---|
| Persistence and degradability | Not established. |

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

| Ammonium Hydroxide, 28-30% w/w (1336-21-6) | |
|---|---|
| Persistence and degradability | Readily biodegradable in water. Ozonation in water. Biodegradable in the soil. No (test)data on mobility of the components of the mixture available. Ozonation in the air. |

### 12.3. Bioaccumulative potential

| Ammonium Chloride-EDTA Solution | |
|---|---|
| Bioaccumulative potential | Not established. |

| Ammonium Chloride (12125-02-9) | |
|---|---|
| Log Pow | -4.37 (Estimated value) |
| Bioaccumulative potential | Bioaccumulation: not applicable. |

| EDTA, Disodium, Dihydrate (6381-92-6) | |
|---|---|
| Bioaccumulative potential | Not established. |

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

| Ammonium Hydroxide, 28-30% w/w (1336-21-6) | |
|---|---|
| Log Pow | -1.3 |
| Bioaccumulative potential | Bioaccumulation: not applicable. |

### 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 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

| **Ammonium Chloride (12125-02-9)** | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| RQ (Reportable quantity, section 304 of EPA's List of Lists) : | 5000 lb |

| **EDTA, Disodium, Dihydrate (6381-92-6)** |
|---|
| Not listed on the United States TSCA (Toxic Substances Control Act) inventory |

| **Water (7732-18-5)** |
|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

| **Ammonium Hydroxide, 28-30% w/w (1336-21-6)** | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory<br>Listed on SARA Section 313 (Specific toxic chemical listings) | |
| RQ (Reportable quantity, section 304 of EPA's List of Lists) : | 1000 lb |

### 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)** | |
|---|---|
| WHMIS Classification | Class D Division 2 Subdivision B - Toxic material causing other toxic effects |

| **Water (7732-18-5)** | |
|---|---|
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |

| **Ammonium Hydroxide, 28-30% w/w (1336-21-6)** | |
|---|---|
| WHMIS Classification | Class E - Corrosive Material |

### 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

No additional information available

### 15.3. US State regulations

No additional information available

## SECTION 16: Other information

Other information : None.

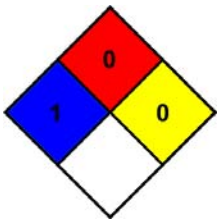
Full text of H-phrases: see section 16:

| | |
|---|---|
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Aquatic Acute 1 | Hazardous to the aquatic environment — AcuteHazard, Category 1 |
| Eye Irrit. 2A | Serious eye damage/eye irritation, Category 2A |
| Skin Corr. 1A | Skin corrosion/irritation, Category 1A |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| STOT SE 3 | Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation |
| H302 | Harmful if swallowed |
| H314 | Causes severe skin burns and eye damage |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| 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

Physical : 0 Minimal Hazard

Personal Protection : B

SDS US (GHS HazCom 2012)

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