

# Safety Data Sheet

## HA7410SS

Version number: 3.0

Revision: 2026-06-08

### SECTION 1: Identification

#### 1.1 Product identifier

Trade name

Trace Hardness Buffer

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

Relevant identified uses

laboratory and analytical use

#### 1.3 Details of the supplier of the safety data sheet

AquaPhoenix Scientific  
860 Gitts Run Road  
Hanover PA 17331  
United States

Telephone: (866) 632-1291  
e-mail: [info@aquaphoenixsci.com](mailto:info@aquaphoenixsci.com)  
Website: <https://www.aquaphoenixsci.com/>

#### 1.4 Emergency telephone number

Emergency information service

ChemTel Inc.: 1-800-255-3924, +01-813-248-0585

### SECTION 2: Hazard(s) identification

#### 2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200, Rev. 2024)

| Hazard class                                                                    | Category | Hazard class and category | Hazard statement |
|---------------------------------------------------------------------------------|----------|---------------------------|------------------|
| flammable liquid                                                                | 4        | Flam. Liq. 4              | H227             |
| acute toxicity (oral)                                                           | 5        | Acute Tox. 5              | H303             |
| acute toxicity (dermal)                                                         | 5        | Acute Tox. 5              | H313             |
| acute toxicity (inhal.)                                                         | 5        | Acute Tox. 5              | H333             |
| skin corrosion/irritation                                                       | 1        | Skin Corr. 1              | H314             |
| serious eye damage/eye irritation                                               | 1        | Eye Dam. 1                | H318             |
| specific target organ toxicity - single exposure (respiratory tract irritation) | 3        | STOT SE 3                 | H335             |
| hazardous to the aquatic environment - acute hazard                             | 2        | Aquatic Acute 2           | H401             |
| hazardous to the aquatic environment - chronic hazard                           | 3        | Aquatic Chronic 3         | H412             |

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. The product is combustible and can be ignited by potential ignition sources. Spillage and fire water can cause pollution of watercourses.

#### 2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200, Rev. 2024)

- Signal word              danger

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### - Pictograms

GHS05, GHS07



### - Hazard statements

|                |                                                                  |
|----------------|------------------------------------------------------------------|
| H227           | Combustible liquid.                                              |
| H303+H313+H333 | May be harmful if swallowed, in contact with skin or if inhaled. |
| H314           | Causes severe skin burns and eye damage.                         |
| H335           | May cause respiratory irritation.                                |
| H401           | Toxic to aquatic life.                                           |
| H412           | Harmful to aquatic life with long lasting effects.               |

### - Precautionary statements

|                |                                                                                                                                   |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------|
| P210           | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.                                    |
| P260           | Do not breathe dusts or mists.                                                                                                    |
| P264+P265      | Wash hands thoroughly after handling. Do not touch eyes.                                                                          |
| P271           | Use only outdoors or with adequate ventilation.                                                                                   |
| P273           | Avoid release to the environment.                                                                                                 |
| P280           | Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.                                     |
| P301+P317      | IF SWALLOWED: Get medical help.                                                                                                   |
| P301+P330+P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.                                                                                |
| P302+P317      | IF ON SKIN: Get medical help.                                                                                                     |
| P302+P361+P354 | IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes.                     |
| P304+P317      | IF INHALED: Get medical help.                                                                                                     |
| P304+P340      | IF INHALED: Remove person to fresh air and keep comfortable for breathing.                                                        |
| P305+P354+P338 | IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P312           | Call a POISON CENTER/doctor if you feel unwell.                                                                                   |
| P316           | Get emergency medical help immediately.                                                                                           |
| P321           | Specific treatment (see on this label).                                                                                           |
| P363           | Wash contaminated clothing before reuse.                                                                                          |
| P370+P378      | In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.                                                   |
| P403+P233      | Store in a well-ventilated place. Keep container tightly closed.                                                                  |
| P405           | Store locked up.                                                                                                                  |
| P501           | Dispose of contents/container in accordance with local/regional/national/international regulations.                               |

### - Hazardous ingredients for labelling

Ethanolamine, Hydrochloric Acid

## 2.3 Other hazards

This material is combustible, but will not ignite readily.

### Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of  $\geq 0.1\%$ .

### Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of  $\geq 0.1\%$ .

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not relevant (mixture)

### 3.2 Mixtures

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### Description of the mixture

| Name of substance               | Identifier            | Wt%   | Classification acc. to GHS                                                                                                                                                                                      | Pictograms                                                                                                                                                                                                                                                  |
|---------------------------------|-----------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water                           | CAS No<br>7732-18-5   | 66.47 |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                             |
| Ethanolamine                    | CAS No<br>141-43-5    | 31    | Flam. Liq. 4 / H227<br>Acute Tox. 4 / H302<br>Acute Tox. 4 / H312<br>Acute Tox. 4 / H332<br>Skin Corr. 1B / H314<br>Eye Dam. 1 / H318<br>STOT SE 3 / H335<br>Aquatic Acute 2 / H401<br>Aquatic Chronic 3 / H412 |                                                                                       |
| Hydrochloric Acid               | CAS No<br>7647-01-0   | 2.035 | Acute Tox. 3 / H331<br>Skin Corr. 1B / H314<br>Eye Dam. 1 / H318<br>Aquatic Acute 1 / H400                                                                                                                      |    |
| Magnesium Disodium EDTA hydrate | CAS No<br>194491-32-2 | 0.5   |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                             |

### Remarks

For full text of abbreviations: see SECTION 16

## SECTION 4: First-aid measures

### 4.1 Description of first-aid measures

#### General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

#### Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

#### Following skin contact

Wash with plenty of soap and water.

#### Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

#### Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

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

Symptoms and effects are not known to date.

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

Medical attention may be necessary if the product gets into the eyes or on the skin.

## SECTION 5: Fire-fighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Water spray, Alcohol resistant foam, BC-powder, Carbon dioxide (CO2)

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Unsuitable extinguishing media

Water jet

### 5.2 Special hazards arising from the substance or mixture

In case of insufficient ventilation and/or in use, may form flammable/explosive vapor-air mixture. Solvent vapors are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

Hazardous combustion products

Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

### 6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Recommendations

Wear impact- and splash-resistant eyewear.

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Avoidance of ignition sources. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools.

- Specific notes/details

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are par-

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ticularly prone to the presence of flammable substances or mixtures. Vapors are heavier than air, spread along floors and form explosive mixtures with air. Vapors may form explosive mixtures with air.

### - Handling of incompatible substances or mixtures

Do not mix with acids.

### Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

## 7.2 Conditions for safe storage, including any incompatibilities

### Managing of associated risks

#### - Explosive atmospheres

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

#### - Flammability hazards

Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from sunlight.

### Control of the effects

#### Protect against external exposure, such as

heat, high temperatures, light, UV-radiation/sunlight

#### - Ventilation requirements

Keep any substance that emits harmful vapors or gases in a place that allows these to be permanently extracted. Use local and general ventilation. Ground/bond container and receiving equipment.

#### - Packaging compatibilities

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

| Occupational exposure limit values (Workplace Exposure Limits) |                               |           |            |             |             |            |              |                 |                   |          |                   |
|----------------------------------------------------------------|-------------------------------|-----------|------------|-------------|-------------|------------|--------------|-----------------|-------------------|----------|-------------------|
| Country                                                        | Name of agent                 | CAS No    | Identifier | TWA [ppm]   | TWA [mg/m³] | STEL [ppm] | STEL [mg/m³] | Ceiling-C [ppm] | Ceiling-C [mg/m³] | Notation | Source            |
| US                                                             | ethanolamine                  | 141-43-5  | REL        | 3<br>(10 h) | 8<br>(10 h) | 6          | 15           |                 |                   |          | NIOSH REL         |
| US                                                             | ethanolamine                  | 141-43-5  | TLV®       | 3           |             | 6          |              |                 |                   |          | ACGIH® 2024       |
| US                                                             | ethanolamine                  | 141-43-5  | PEL        | 3           | 6           |            |              |                 |                   |          | 29 CFR 1910.10 00 |
| US                                                             | ethanolamine (2-aminoethanol) | 141-43-5  | PEL (CA)   | 3           | 8           | 6          | 15           |                 |                   |          | Cal/OSH A PEL     |
| US                                                             | hydrogen chloride             | 7647-01-0 | REL        |             |             |            |              | 5               | 7                 |          | NIOSH REL         |
| US                                                             | hydrogen chloride             | 7647-01-0 | TLV®       |             |             |            |              | 2               |                   |          | ACGIH® 2024       |
| US                                                             | hydrogen chloride             | 7647-01-0 | PEL        |             |             |            |              | 5               | 7                 |          | 29 CFR 1910.10 00 |

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### Occupational exposure limit values (Workplace Exposure Limits)

| Country | Name of agent                                         | CAS No    | Identifier | TWA [ppm] | TWA [mg/m³] | STEL [ppm] | STEL [mg/m³] | Ceiling-C [ppm] | Ceiling-C [mg/m³] | Notation | Source       |
|---------|-------------------------------------------------------|-----------|------------|-----------|-------------|------------|--------------|-----------------|-------------------|----------|--------------|
| US      | hydrogen chloride (muriatic acid) (hydrochloric acid) | 7647-01-0 | PEL (CA)   | 0.3       | 0.45        |            |              | 2               |                   |          | Cal/OSHA PEL |

#### Notation

Ceiling-C ceiling value is a limit value above which exposure should not occur

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

### Relevant DNELs of components

| Name of substance | CAS No    | Endpoint | Threshold level | Protection goal, route of exposure | Used in           | Exposure time              |
|-------------------|-----------|----------|-----------------|------------------------------------|-------------------|----------------------------|
| Ethanolamine      | 141-43-5  | DNEL     | 1 mg/m³         | human, inhalatory                  | worker (industry) | chronic - systemic effects |
| Ethanolamine      | 141-43-5  | DNEL     | 0.51 mg/m³      | human, inhalatory                  | worker (industry) | chronic - local effects    |
| Ethanolamine      | 141-43-5  | DNEL     | 3 mg/kg bw/day  | human, dermal                      | worker (industry) | chronic - systemic effects |
| Hydrochloric Acid | 7647-01-0 | DNEL     | 8 mg/m³         | human, inhalatory                  | worker (industry) | chronic - local effects    |
| Hydrochloric Acid | 7647-01-0 | DNEL     | 15 mg/m³        | human, inhalatory                  | worker (industry) | acute - local effects      |

### Relevant PNECs of components

| Name of substance | CAS No   | Endpoint | Threshold level | Organism              | Environmental compartment    | Exposure time                |
|-------------------|----------|----------|-----------------|-----------------------|------------------------------|------------------------------|
| Ethanolamine      | 141-43-5 | PNEC     | 0.07 mg/l       | aquatic organisms     | freshwater                   | short-term (single instance) |
| Ethanolamine      | 141-43-5 | PNEC     | 0.007 mg/l      | aquatic organisms     | marine water                 | short-term (single instance) |
| Ethanolamine      | 141-43-5 | PNEC     | 100 mg/l        | aquatic organisms     | sewage treatment plant (STP) | short-term (single instance) |
| Ethanolamine      | 141-43-5 | PNEC     | 0.357 mg/kg     | aquatic organisms     | freshwater sediment          | short-term (single instance) |
| Ethanolamine      | 141-43-5 | PNEC     | 0.036 mg/kg     | aquatic organisms     | marine sediment              | short-term (single instance) |
| Ethanolamine      | 141-43-5 | PNEC     | 1.29 mg/kg      | terrestrial organisms | soil                         | short-term (single instance) |

## 8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

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### Skin protection

#### - Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Recommended: Disposable neoprene gloves, 0.1 - 0.2 mm thick, 15-120 minute breakthrough times. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

#### - Other protection measures

Wash hands thoroughly after handling.

### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

### Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

**Product description:** See website or catalog for details.

|                                                          |                                                  |
|----------------------------------------------------------|--------------------------------------------------|
| Physical state                                           | liquid                                           |
| Color                                                    | colorless                                        |
| Odor                                                     | characteristic                                   |
| Melting point/freezing point                             | not determined                                   |
| Boiling point or initial boiling point and boiling range | 100 °C                                           |
| Evaporation rate                                         | not determined                                   |
| Flammability                                             | flammable liquid in accordance with GHS criteria |
| Lower and upper explosion limit                          | not determined                                   |
| Flash point                                              | 91 °C at 101.3 kPa                               |
| Auto-ignition temperature                                | 424 °C                                           |
| Decomposition temperature                                | not relevant                                     |
| pH (value)                                               | 7 – 14                                           |
| Kinematic viscosity                                      | not determined                                   |

### Solubility(ies)

|                  |                            |
|------------------|----------------------------|
| Water solubility | miscible in any proportion |
|------------------|----------------------------|

### Partition coefficient

|                                                   |                                   |
|---------------------------------------------------|-----------------------------------|
| Partition coefficient n-octanol/water (log value) | this information is not available |
|---------------------------------------------------|-----------------------------------|

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|                |        |
|----------------|--------|
| Vapor pressure | 23 hPa |
|----------------|--------|

### Density and/or relative density

|                         |                                               |
|-------------------------|-----------------------------------------------|
| Density                 | not determined                                |
| Relative vapour density | information on this property is not available |

|                          |                       |
|--------------------------|-----------------------|
| Particle characteristics | not relevant (liquid) |
|--------------------------|-----------------------|

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". The mixture contains reactive substance(s). Risk of ignition.

If heated:

Risk of ignition

### 10.2 Chemical stability

See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

### 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

### 10.5 Incompatible materials

Oxidizers

### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

**Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200, Rev. 2024)**

Acute toxicity

May be harmful if swallowed. May be harmful in contact with skin. May be harmful if inhaled.

- Acute toxicity estimate (ATE)

|                   |               |
|-------------------|---------------|
| Oral              | 3,513 mg/kg   |
| Dermal            | 3,548 mg/kg   |
| Inhalation: vapor | 28.45 mg/l/4h |



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### Acute toxicity estimate (ATE) of components

| Name of substance | CAS No    | Exposure route    | ATE         |
|-------------------|-----------|-------------------|-------------|
| Ethanolamine      | 141-43-5  | oral              | 1,089 mg/kg |
| Ethanolamine      | 141-43-5  | dermal            | 1,100 mg/kg |
| Ethanolamine      | 141-43-5  | inhalation: vapor | 11 mg/l/4h  |
| Hydrochloric Acid | 7647-01-0 | inhalation: vapor | 3 mg/l/4h   |

### Skin corrosion/irritation

Causes severe skin burns and eye damage.

### Serious eye damage/eye irritation

Causes serious eye damage.

### Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

### Carcinogenicity

Shall not be classified as carcinogenic.

### IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

| Name of substance | CAS No    | Classification | Number |
|-------------------|-----------|----------------|--------|
| Hydrochloric Acid | 7647-01-0 | 3              |        |

#### Legend

3 Not classifiable as to carcinogenicity in humans

### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

### Specific target organ toxicity - single exposure

May cause respiratory irritation.

### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

## 11.2 Information on other hazards

There is no additional information.

## SECTION 12: Ecological information

### 12.1 Toxicity

Toxic to aquatic life with long lasting effects.

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### Aquatic toxicity (acute) of components

| Name of substance | CAS No   | Endpoint | Value      | Species               | Exposure time |
|-------------------|----------|----------|------------|-----------------------|---------------|
| Ethanolamine      | 141-43-5 | LC50     | 349 mg/l   | fish                  | 96 h          |
| Ethanolamine      | 141-43-5 | EC50     | 27.04 mg/l | aquatic invertebrates | 48 h          |
| Ethanolamine      | 141-43-5 | ErC50    | 2.8 mg/l   | algae                 | 72 h          |

### Aquatic toxicity (chronic) of components

| Name of substance | CAS No   | Endpoint | Value    | Species               | Exposure time |
|-------------------|----------|----------|----------|-----------------------|---------------|
| Ethanolamine      | 141-43-5 | EC50     | 2.5 mg/l | aquatic invertebrates | 21 d          |

## 12.2 Persistence and degradability

### Degradability of components

| Name of substance | CAS No   | Process     | Degradation rate | Time | Method | Source |
|-------------------|----------|-------------|------------------|------|--------|--------|
| Ethanolamine      | 141-43-5 | DOC removal | >90 %            | 21 d |        | ECHA   |

## 12.3 Bioaccumulative potential

Data are not available.

### Bioaccumulative potential of components

| Name of substance | CAS No    | BCF | Log KOW                     | BOD5/COD |
|-------------------|-----------|-----|-----------------------------|----------|
| Water             | 7732-18-5 |     | -0.467 (pH value: 7, 20 °C) |          |
| Ethanolamine      | 141-43-5  | 2.5 | -2.3 (25 °C)                |          |

## 12.4 Mobility in soil

Data are not available.

## 12.5 Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of  $\geq 0.1\%$ .

## 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of  $\geq 0.1\%$ .

## 12.7 Other adverse effects

Data are not available.

# SECTION 13: Disposal considerations

## 13.1 Waste treatment methods

Waste treatment-relevant information

Solvent reclamation/regeneration.

Please consider the relevant national or regional provisions.

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### SECTION 14: Transport information

#### 14.1 UN number

|           |         |
|-----------|---------|
| DOT       | UN 3267 |
| IMDG-Code | UN 3267 |
| ICAO-TI   | UN 3267 |

#### 14.2 UN proper shipping name

|                                        |                                          |
|----------------------------------------|------------------------------------------|
| DOT                                    | Corrosive liquid, basic, organic, n.o.s. |
| IMDG-Code                              | CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. |
| ICAO-TI                                | Corrosive liquid, basic, organic, n.o.s. |
| Technical name (hazardous ingredients) | Ethanolamine, Hydrochloric Acid          |

#### 14.3 Transport hazard class(es)

|           |   |
|-----------|---|
| DOT       | 8 |
| IMDG-Code | 8 |
| ICAO-TI   | 8 |

#### 14.4 Packing group

|           |    |
|-----------|----|
| DOT       | II |
| IMDG-Code | II |
| ICAO-TI   | II |

#### 14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

#### 14.6 Other relevant information

Shipping container markings and labels, received from AquaPhoenix, may vary from the above information. Products that are regulated for transport will be packaged by AquaPhoenix as Dangerous Goods in Excepted Quantities according to IATA, US DOT, and IMDG regulations. AquaPhoenix may also elect to ship certain products as UN 3316 Chemical Kit, Hazard Class 9, Packing Group II or III. In case of reshipment, it is the responsibility of the shipper to determine appropriate labels and markings in accordance with applicable transportation regulations.

#### 14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

#### Information for each of the UN Model Regulations

##### Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information

|                                                                                     |                                                                                                     |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Particulars in the shipper's declaration                                            | UN3267, Corrosive liquid, basic, organic, n.o.s., (Ethanolamine, Hydrochloric Acid, mixture), 8, II |
| Reportable quantity (RQ)                                                            | 239,234 lbs (108,612 kg) (Hydrochloric Acid)                                                        |
| Danger label(s)                                                                     | 8                                                                                                   |
|  |                                                                                                     |
| Special provisions (SP)                                                             | B2, IB2, T11, TP2, TP27                                                                             |
| ERG No                                                                              | 153                                                                                                 |

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### International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant -  
Danger label(s) 8



Special provisions (SP) 274  
Excepted quantities (EQ) E2  
Limited quantities (LQ) 1 L  
EmS F-A, S-B  
Stowage category B  
Segregation group 18 - Alkalis

### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Danger label(s) 8



Special provisions (SP) A3  
Excepted quantities (EQ) E2  
Limited quantities (LQ) 0,5 L

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

#### National regulations (United States)

**Toxic Substance Control Act (TSCA)** not all ingredients are listed (ACTIVE)

#### Superfund Amendment and Reauthorization Act (SARA TITLE III )

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities

| Name of substance | CAS No    | Notes | Reportable quantity (pounds) | Threshold planning quantity (pounds) |
|-------------------|-----------|-------|------------------------------|--------------------------------------|
| Hydrochloric Acid | 7647-01-0 | f     | 5,000                        | 500                                  |

#### Legend

f Chemical on the original list that does not meet toxicity criteria but because of its acute lethality, high production volume and known risk is considered chemical of concern ("Other chemicals"). (November 17, 1986, and February 15, 1990.)

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### - Specific Toxic Chemical Listings (EPCRA Section 313)

| Toxics Release Inventory: Specific Toxic Chemical Listings |           |                                                                                                |                |
|------------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------|----------------|
| Name of substance                                          | CAS No    | Remarks                                                                                        | Effective date |
| Hydrochloric Acid                                          | 7647-01-0 | acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size | 1986-12-31     |

### Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

#### - List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

| Name of substance | CAS No    | Remarks | Statutory code | Final RQ pounds (Kg) |
|-------------------|-----------|---------|----------------|----------------------|
| Hydrochloric Acid | 7647-01-0 |         | 1<br>3         | 5000 (2270)          |

#### Legend

- 1 "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act  
3 "3" indicates that the source is section 112 of the Clean Air Act

### Clean Air Act

| Name of substance | CAS No    | Type of registration | Basis for listing | Threshold quantity (lbs) |
|-------------------|-----------|----------------------|-------------------|--------------------------|
| Hydrochloric Acid | 7647-01-0 | Toxic substance      | a                 | 5000                     |
| Hydrochloric Acid | 7647-01-0 | Toxic substance      | d                 | 15000                    |

#### Legend

- a Mandated for listing by Congress.  
d Toxicity of hydrogen chloride, potential to release hydrogen chloride, and history of accidents.

### Right to Know Hazardous Substance List

#### - Hazardous Substance List (NJ-RTK)

| Name of substance | CAS No    | Remarks | Classifications |
|-------------------|-----------|---------|-----------------|
| Hydrochloric Acid | 7647-01-0 |         | CO<br>R1        |
| Ethanolamine      | 141-43-5  |         | CO<br>F2        |

#### Legend

- CO Corrosive  
F2 Flammable - Second Degree  
R1 Reactive - First Degree

### California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

none of the ingredients are listed

### Industry or sector specific available guidance(s)

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### NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

| Category            | Rating | Description                                                                                                                                                |
|---------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chronic             | /      | none                                                                                                                                                       |
| Health              | 3      | major injury likely unless prompt action is taken and medical treatment is given                                                                           |
| Flammability        | 2      | material that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur                                       |
| Physical hazard     | 0      | material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive |
| Personal protection | -      |                                                                                                                                                            |

### NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

| Category       | Degree of hazard | Description                                                                                                          |
|----------------|------------------|----------------------------------------------------------------------------------------------------------------------|
| Flammability   | 2                | material that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur |
| Health         | 3                | material that, under emergency conditions, can cause serious or permanent injury                                     |
| Instability    | 0                | material that is normally stable, even under fire conditions                                                         |
| Special hazard |                  |                                                                                                                      |

### National inventories

| Country | Inventory  | Status                         |
|---------|------------|--------------------------------|
| AU      | AIIC       | not all ingredients are listed |
| CA      | DSL        | not all ingredients are listed |
| CN      | IECSC      | not all ingredients are listed |
| EU      | ECSI       | not all ingredients are listed |
| EU      | REACH Reg. | not all ingredients are listed |
| JP      | CSCL-ENCS  | not all ingredients are listed |
| JP      | ISHA-ENCS  | not all ingredients are listed |
| KR      | KECI       | not all ingredients are listed |
| MX      | INSQ       | not all ingredients are listed |
| NZ      | NZIoC      | not all ingredients are listed |
| PH      | PICCS      | not all ingredients are listed |
| TR      | CICR       | not all ingredients are listed |
| TW      | TCSI       | not all ingredients are listed |
| US      | TSCA       | not all ingredients are listed |

#### Legend

AIIC      Australian Inventory of Industrial Chemicals  
CICR      Chemical Inventory and Control Regulation

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### Legend

|            |                                                                         |
|------------|-------------------------------------------------------------------------|
| CSCL-ENCS  | List of Existing and New Chemical Substances (CSCL-ENCS)                |
| DSL        | Domestic Substances List (DSL)                                          |
| ECSI       | EC Substance Inventory (EINECS, ELINCS, NLP)                            |
| IECSC      | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ       | National Inventory of Chemical Substances                               |
| ISHA-ENCS  | Inventory of Existing and New Chemical Substances (ISHA-ENCS)           |
| KECI       | Korea Existing Chemicals Inventory                                      |
| NZIoC      | New Zealand Inventory of Chemicals                                      |
| PICCS      | Philippine Inventory of Chemicals and Chemical Substances (PICCS)       |
| REACH Reg. | REACH registered substances                                             |
| TCSI       | Taiwan Chemical Substance Inventory                                     |
| TSCA       | Toxic Substance Control Act                                             |

## 15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

## SECTION 16: Other information, including date of preparation or last revision

### Abbreviations and acronyms

| Abbr.            | Descriptions of used abbreviations                                                                                                                                                                                                                                                                                                                               |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 29 CFR 1910.1000 | 29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)                                                                                                                                                                                                                  |
| 49 CFR US DOT    | 49 CFR U.S. Department of Transportation                                                                                                                                                                                                                                                                                                                         |
| ACGIH® 2024      | From ACGIH®, 2024 TLVs® and BEIs® Book. Copyright 2024. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: <a href="http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement">http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement</a> |
| Acute Tox.       | Acute toxicity                                                                                                                                                                                                                                                                                                                                                   |
| Aquatic Acute    | Hazardous to the aquatic environment - acute hazard                                                                                                                                                                                                                                                                                                              |
| Aquatic Chronic  | Hazardous to the aquatic environment - chronic hazard                                                                                                                                                                                                                                                                                                            |
| ATE              | Acute Toxicity Estimate                                                                                                                                                                                                                                                                                                                                          |
| BCF              | Bioconcentration factor                                                                                                                                                                                                                                                                                                                                          |
| BOD              | Biochemical Oxygen Demand                                                                                                                                                                                                                                                                                                                                        |
| Cal/OSHA PEL     | California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)                                                                                                                                                                                                                                                             |
| CAS              | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)                                                                                                                                                                                                                                                           |
| Ceiling-C        | Ceiling value                                                                                                                                                                                                                                                                                                                                                    |
| COD              | Chemical oxygen demand                                                                                                                                                                                                                                                                                                                                           |
| DGR              | Dangerous Goods Regulations (see IATA/DGR)                                                                                                                                                                                                                                                                                                                       |
| DNEL             | Derived No-Effect Level                                                                                                                                                                                                                                                                                                                                          |
| DOT              | Department of Transportation (USA)                                                                                                                                                                                                                                                                                                                               |
| EC50             | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval                                                                                                                                                                                 |
| ED               | Endocrine disruptor                                                                                                                                                                                                                                                                                                                                              |
| EINECS           | European Inventory of Existing Commercial Chemical Substances                                                                                                                                                                                                                                                                                                    |
| ELINCS           | European List of Notified Chemical Substances                                                                                                                                                                                                                                                                                                                    |

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| Abbr.          | Descriptions of used abbreviations                                                                                                                                     |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EmS            | Emergency Schedule                                                                                                                                                     |
| ErC50          | ≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control |
| ERG No         | Emergency Response Guidebook - Number                                                                                                                                  |
| Eye Dam.       | Seriously damaging to the eye                                                                                                                                          |
| Eye Irrit.     | Irritant to the eye                                                                                                                                                    |
| Flam. Liq.     | Flammable liquid                                                                                                                                                       |
| GHS            | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations                                                              |
| IARC           | International Agency for Research on Cancer                                                                                                                            |
| IATA           | International Air Transport Association                                                                                                                                |
| IATA/DGR       | Dangerous Goods Regulations (DGR) for the air transport (IATA)                                                                                                         |
| ICAO           | International Civil Aviation Organization                                                                                                                              |
| ICAO-TI        | Technical instructions for the safe transport of dangerous goods by air                                                                                                |
| IMDG           | International Maritime Dangerous Goods Code                                                                                                                            |
| IMDG-Code      | International Maritime Dangerous Goods Code                                                                                                                            |
| LC50           | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval                      |
| log KOW        | n-Octanol/water                                                                                                                                                        |
| NIOSH REL      | National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)                                                                      |
| NLP            | No-Longer Polymer                                                                                                                                                      |
| NPCA-HMIS® III | National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition                                                          |
| OSHA           | Occupational Safety and Health Administration (United States)                                                                                                          |
| PBT            | Persistent, Bioaccumulative and Toxic                                                                                                                                  |
| PEL            | Permissible exposure limit                                                                                                                                             |
| PNEC           | Predicted No-Effect Concentration                                                                                                                                      |
| ppm            | Parts per million                                                                                                                                                      |
| RTECS          | Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)                                                                    |
| Skin Corr.     | Corrosive to skin                                                                                                                                                      |
| Skin Irrit.    | Irritant to skin                                                                                                                                                       |
| STEL           | Short-term exposure limit                                                                                                                                              |
| STOT SE        | Specific target organ toxicity - single exposure                                                                                                                       |
| TLV®           | Threshold Limit Values                                                                                                                                                 |
| TWA            | Time-weighted average                                                                                                                                                  |
| vPvB           | Very Persistent and very Bioaccumulative                                                                                                                               |

### Key literature references and sources for data

Globally Harmonized System of Classification and Labelling of Chemicals ("Purple book").  
 Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG).  
 Dangerous Goods Regulations (DGR) for the air transport (IATA).



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### Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

### List of relevant phrases (code and full text as stated in section 2 and 3)

| Code | Text                                               |
|------|----------------------------------------------------|
| H227 | Combustible liquid.                                |
| H302 | Harmful if swallowed.                              |
| H303 | May be harmful if swallowed.                       |
| H312 | Harmful in contact with skin.                      |
| H313 | May be harmful in contact with skin.               |
| H314 | Causes severe skin burns and eye damage.           |
| H318 | Causes serious eye damage.                         |
| H331 | Toxic if inhaled.                                  |
| H332 | Harmful if inhaled.                                |
| H333 | May be harmful if inhaled.                         |
| H335 | May cause respiratory irritation.                  |
| H400 | Very toxic to aquatic life.                        |
| H401 | Toxic to aquatic life.                             |
| H412 | Harmful to aquatic life with long lasting effects. |

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.