

# Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

## Hardness Buffer Solution

Version number: 1.0

Date of compilation: 2024-03-19

### SECTION 1: Identification

#### 1.1 Product identifier

Trade name **Hardness Buffer Solution**  
Product code(s) HA7408SS

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

Relevant identified uses laboratory and analytical use  
Uses advised against Do not use for squirting or spraying. Do not use for products which come into direct contact with the skin.

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

AquaPhoenix Scientific, Inc  
860 Gitts Run Road  
Hanover PA 17331  
United States  
  
Telephone: (717) 632-1291  
e-mail: info@aquaphoenixsci.com

#### 1.4 Emergency telephone number

Emergency information service ChemTel Inc. (800) 255-3924 (North America)  
+1 (813) 248-0585 (International)

### SECTION 2: Hazard(s) identification

#### 2.1 Classification of the substance or mixture

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

Section	Hazard class	Category	Hazard class and category	Hazard statement
A.2	skin corrosion/irritation	1B	Skin Corr. 1B	H314
A.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318

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.

#### 2.2 Label elements

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

- Signal word danger

- Pictograms

GHS05



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### - Hazard statements

H314 Causes severe skin burns and eye damage.

### - Precautionary statements

P260 Do not breathe dusts or mists.  
P280 Wear eye protection/face protection.  
P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.  
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a poison center/doctor.  
P321 Specific treatment (see on this label).  
P363 Wash contaminated clothing before reuse.  
P405 Store locked up.  
P501 Dispose of contents/container to industrial combustion plant.

- Hazardous ingredients for labelling 2-aminoethanol, hydrochloric acid

## 2.3 Other hazards

Hazards not otherwise classified

May be harmful if inhaled (GHS category 5: acutely toxic - inhalation).  
Toxic to aquatic life with long lasting effects (GHS category 2: aquatic toxicity - acute and/or chronic).

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in 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

Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
Deionized water	CAS No 7732-18-5	87.5	not classified	none
2-Aminoethanol	CAS No 141-43-5	9.5	Acute Tox. 4 / H302 Acute Tox. 4 / H312 Acute Tox. 4 / H332 Skin Corr. 1B / H314 Eye Dam. 1 / H318 STOT SE 3 / H335 Flam. Liq. 4 / H227	
Hydrochloric acid	CAS No 7647-01-0	2	Acute Tox. 3 / H331 Skin Corr. 1B / H314 Eye Dam. 1 / H318 STOT SE 3 / H335 Met. Corr. 1 / H290	

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Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
EDTA magnesium disodium salt	CAS No 14402-88-1	0.5	not classified	none
Sodium sulfide	CAS No 1313-82-2	0.5	Acute Tox. 4 / H302 Acute Tox. 3 / H311 Skin Corr. 1B / H314 Eye Dam. 1 / H318	

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

none

### SECTION 5: Fire-fighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing media

Water spray, Alcohol resistant foam, BC-powder, Carbon dioxide (CO<sub>2</sub>)

##### Unsuitable extinguishing media

Water jet

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

##### Hazardous combustion products

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

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### 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

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

Use local and general ventilation. Use only in well-ventilated areas.

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.

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

Control of the effects

Protect against external exposure, such as  
frost

- Packaging compatibilities

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

### 7.3 Specific end use(s)

See section 16 for a general overview.

## 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/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [ppm]	Ceiling-C [mg/m <sup>3</sup> ]	Notation	Source
US	ethanolamine	141-43-5	REL	3 (10 h)	8 (10 h)	6	15				NIOSH REL
US	ethanolamine	141-43-5	TLV®	3		6					ACGIH® 2023
US	ethanolamine	141-43-5	PEL	3	6						29 CFR 1910.100 0
US	ethanolamine (2-aminoethanol)	141-43-5	PEL (CA)	3	8	6	15				Ca/ OSHA PEL
US	hydrogen chloride	7647-01-0	REL					5	7		NIOSH REL
US	hydrogen chloride	7647-01-0	TLV®					2			ACGIH® 2023
US	hydrogen chloride	7647-01-0	PEL					5	7		29 CFR 1910.100 0
US	hydrogen chloride (muriatic acid) (hydrochloric acid)	7647-01-0	PEL (CA)	0.3	0.45			2			Ca/ OSHA PEL

#### Notation

Ceiling-C

STEL

TWA

ceiling value is a limit value above which exposure should not occur

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)

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)

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Relevant DNELs of components						
Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
2-aminoethanol	141-43-5	DNEL	1 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
2-aminoethanol	141-43-5	DNEL	0.51 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
2-aminoethanol	141-43-5	DNEL	3 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
hydrochloric acid	7647-01-0	DNEL	8 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
hydrochloric acid	7647-01-0	DNEL	15 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - local effects
EDTA magnesium disodium salt	14402-88-1	DNEL	30 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
EDTA magnesium disodium salt	14402-88-1	DNEL	10 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
EDTA magnesium disodium salt	14402-88-1	DNEL	62,500 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
sodium sulfide	1313-82-2	DNEL	13.84 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
sodium sulfide	1313-82-2	DNEL	1.6 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
sodium sulfide	1313-82-2	DNEL	3.2 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - local effects

Relevant PNECs of components						
Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
2-aminoethanol	141-43-5	PNEC	0.07 mg/l	aquatic organisms	freshwater	short-term (single instance)
2-aminoethanol	141-43-5	PNEC	0.007 mg/l	aquatic organisms	marine water	short-term (single instance)
2-aminoethanol	141-43-5	PNEC	100 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
2-aminoethanol	141-43-5	PNEC	0.357 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
2-aminoethanol	141-43-5	PNEC	0.036 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
2-aminoethanol	141-43-5	PNEC	1.29 mg/kg	terrestrial organisms	soil	short-term (single instance)
EDTA magnesium disodium salt	14402-88-1	PNEC	2.66 mg/l	aquatic organisms	freshwater	short-term (single instance)
EDTA magnesium disodium salt	14402-88-1	PNEC	0.27 mg/l	aquatic organisms	marine water	short-term (single instance)
EDTA magnesium disodium salt	14402-88-1	PNEC	59 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)

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Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
EDTA magnesium disodium salt	14402-88-1	PNEC	0.192 mg/kg	terrestrial organisms	soil	short-term (single instance)
sodium sulfide	1313-82-2	PNEC	0.27 µg/l	aquatic organisms	freshwater	short-term (single instance)
sodium sulfide	1313-82-2	PNEC	0.27 µg/l	aquatic organisms	marine water	short-term (single instance)
sodium sulfide	1313-82-2	PNEC	16 µg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
sodium sulfide	1313-82-2	PNEC	17.6 µg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
sodium sulfide	1313-82-2	PNEC	17.6 µg/kg	aquatic organisms	marine sediment	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.

##### Skin protection

###### - Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. 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

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. 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.

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### SECTION 9: Physical and chemical properties

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

##### Appearance

Physical state	liquid
Color	colorless - light yellow
Particle	not relevant (liquid)
Odor	pungent

##### Other safety parameters

pH (value)	10 – 11
Melting point/freezing point	not determined
Initial boiling point and boiling range	> 100 °C
Flash point	>93 °C at 101.3 kPa
Evaporation rate	not determined
Flammability (solid, gas)	not relevant, (fluid)
Vapor pressure	< 23.7 mmHg at 25 °C
Density	not determined
Vapor density	this information is not available
Relative density	information on this property is not available

##### Solubility(ies)

- Water solubility	miscible in any proportion
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##### Partition coefficient

- n-octanol/water (log KOW)	this information is not available
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Auto-ignition temperature	> 424 °C
Viscosity	not determined
Explosive properties	none
Oxidizing properties	none



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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

#### 10.2 Chemical stability

See below "Conditions to avoid".

#### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

#### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

#### 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)

##### Acute toxicity

Shall not be classified as acutely toxic.

GHS of the United Nations, annex 4: May be harmful if inhaled.

##### Acute toxicity estimate (ATE) of components

Name of substance	CAS No	Exposure route	ATE
2-aminoethanol	141-43-5	oral	1,089 mg/kg
2-aminoethanol	141-43-5	inhalation: vapor	11 mg/l/4h
hydrochloric acid	7647-01-0	inhalation: gas	700 ppmV/4h
sodium sulfide	1313-82-2	oral	500 mg/kg
sodium sulfide	1313-82-2	dermal	300 mg/kg

##### Skin corrosion/irritation

Causes severe skin burns and eye damage.

##### Serious eye damage/eye irritation

Causes serious eye damage.

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### 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

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

### 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.

## SECTION 12: Ecological information

### 12.1 Toxicity

Toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute) of components					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
2-aminoethanol	141-43-5	LC50	349 mg/l	fish	96 h
2-aminoethanol	141-43-5	EC50	27.04 mg/l	aquatic invertebrates	48 h
2-aminoethanol	141-43-5	ErC50	2.8 mg/l	algae	72 h
EDTA magnesium disodium salt	14402-88-1	LC50	2,340 mg/l	fish	96 h
EDTA magnesium disodium salt	14402-88-1	EC50	100.9 mg/l	aquatic invertebrates	48 h
EDTA magnesium disodium salt	14402-88-1	ErC50	649.3 mg/l	algae	72 h
sodium sulfide	1313-82-2	LC50	7,960 mg/l	fish	96 h

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Aquatic toxicity (chronic) of components					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
2-aminoethanol	141-43-5	EC50	2.5 mg/l	aquatic invertebrates	21 d
EDTA magnesium disodium salt	14402-88-1	EC50	365 mg/l	aquatic invertebrates	21 d
sodium sulfide	1313-82-2	EC50	1,900 mg/l	algae	120 h

### 12.2 Persistence and degradability

Data are not available.

### 12.3 Bioaccumulative potential

Data are not available.

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in 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

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

Only packagings which are approved (e.g. acc. to DOT) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

#### Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

## SECTION 14: Transport information

### 14.1 UN number

DOT	UN 1760
IMDG-Code	UN 1760
ICAO-TI	UN 1760

### 14.2 UN proper shipping name

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DOT	Corrosive liquid, n.o.s.
IMDG-Code	CORROSIVE LIQUID, N.O.S.
ICAO-TI	Corrosive liquid, n.o.s.
Technical name (hazardous ingredients)	2-aminoethanol, sodium sulfide
<b>14.3 Transport hazard class(es)</b>	
DOT	8
IMDG-Code	8
ICAO-TI	8
<b>14.4 Packing group</b>	
DOT	III
IMDG-Code	III
ICAO-TI	III
<b>14.5 Environmental hazards</b>	hazardous to the aquatic environment
Environmentally hazardous substance (aquatic environment)	hydrochloric acid
<b>14.6 Special precautions for user</b>	
There is no additional information.	
<b>14.7 Transport in bulk according to IMO instruments</b>	
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	UN1760, Corrosive liquid, n.o.s., (contains: 2-aminoethanol, sodium sulfide), 8, III, environmentally hazardous
Danger label(s)	8, fish and tree
 	
Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	IB3, T7, TP1, TP28
ERG No	154

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

Marine pollutant	yes (hazardous to the aquatic environment) (hydrochloric acid)
Danger label(s)	8, fish and tree
 	
Special provisions (SP)	223, 274

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Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-A, S-B
Stowage category	A

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

Environmental hazards	YES (hazardous to the aquatic environment)
Danger label(s)	8



Special provisions (SP)	A3
Excepted quantities (EQ)	E1
Limited quantities (LQ)	1 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)

all ingredients are listed (ACTIVE) or exempt from listing

##### 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.)

- 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

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### 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 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 R1
2-aminoethanol	141-43-5		CO F2
sodium sulfide	1313-82-2		CO R1

#### 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)

#### NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

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Category	Rating	Description
Chronic	/	none
Health	3	major injury likely unless prompt action is taken and medical treatment is given
Flammability	1	material that must be preheated 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	1	material that must be preheated 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	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CSCL-ENCS	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	all ingredients are listed
PH	PICCS	all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
VN	NCI	all ingredients are listed
US	TSCA	all ingredients are listed (ACTIVE)

#### Legend

AIIC Australian Inventory of Industrial Chemicals

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### Legend

CICR	Chemical Inventory and Control Regulation
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
NCI	National Chemical 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
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Acute Tox.	Acute toxicity
ATE	Acute Toxicity Estimate
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
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
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



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Abbr.	Descriptions of used abbreviations
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
Met. Corr.	Substance or mixture corrosive to metals
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
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

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

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.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	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.
H335	May cause respiratory irritation.

### Disclaimer

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