



SAFETY DATA SHEET

Hydroplex 406

According to Regulation (EC) No 1907/2006, Annex II, as amended by Regulation (EU) No 453/2010

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

1.1. Product identifier

Product name Hydroplex 406

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

Identified uses Scale and corrosion remover for use in heating systems.

Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier Hydro-X Water Treatment Ltd
Eden Place
Outgang Lane
Dinnington
Sheffield
S25 3QT
+44 (0) 1909 565133
+44 (0) 1909 564301
technical@hydro-x.co.uk

1.4. Emergency telephone number

Emergency telephone +44 (0) 1909 565133 (9am-5pm, Mon-Fri)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards

Not Classified

Health hazards

Skin Corr. 1B - H314 Eye Dam. 1 - H318

Environmental hazards

Not Classified

Classification (67/548/EEC or 1999/45/EC)

C; R34

Human health

Corrosive to skin and eyes. See Section 11 for additional information on health hazards.

Environmental

The product is not expected to be hazardous to the environment.

2.2. Label elements

Pictogram



Hydroplex 406**Signal word** Danger**Hazard statements**

H314 Causes severe skin burns and eye damage.

Precautionary statements

P280 Wear protective gloves, eye and 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.

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.

P501 Dispose of contents/container in accordance with national regulations.

Contains

Etidronic acid, Sodium hydroxide, Sodium hydrogensulphate

Supplementary precautionary statements

P260 Do not breathe vapour/spray.

P264 Wash contaminated skin thoroughly after handling.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P363 Wash contaminated clothing before reuse.

P405 Store locked up.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

Etidronic acid		5 - <10%
CAS number: 2809-21-4 EC number: 220-552-8		
Classification	Classification (67/548/EEC or 1999/45/EC)	
Met. Corr. 1 - H290	Xn; R22. Xi; R41	
Acute Tox. 4 - H302		
Eye Dam. 1 - H318		
Sodium hydroxide		2.5 - <5%
CAS number: 1310-73-2 EC number: 215-185-5		
Classification	Classification (67/548/EEC or 1999/45/EC)	
Skin Corr. 1A - H314	C; R35	
Eye Dam. 1 - H318		
Sodium hydrogensulphate		2.5 - <5%
CAS number: 7681-38-1 EC number: 231-665-7		
Classification	Classification (67/548/EEC or 1999/45/EC)	
Eye Dam. 1 - H318	Xi; R41	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation**

Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.

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Ingestion

Rinse mouth thoroughly with water. Give plenty of water to drink. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if any discomfort continues.

Skin contact

Remove affected person from source of contamination. Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if symptoms are severe or persist after washing.

Eye contact

May cause permanent damage if eye is not immediately irrigated. Remove any contact lenses and open eyelids wide apart. Rinse cautiously with water for several minutes. Get medical attention if irritation persists after washing.

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

Inhalation

Severe irritation of nose and throat. Corrosive to the respiratory tract.

Ingestion

May cause chemical burns in mouth, oesophagus and stomach.

Skin contact

Burning pain and severe corrosive skin damage.

Eye contact

Causes serious eye damage.

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

Notes for the doctor

The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Specific treatments

Chemical burns must be treated by a physician.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

Thermal decomposition or combustion products may include the following substances: Oxides of carbon. Corrosive gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting

Avoid breathing fire gases or vapours. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Ventilate closed spaces before entering them.

Special protective equipment for firefighters

Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Wear protective clothing as described in Section 8 of this safety data sheet. Take care as floors and other surfaces may become slippery. Avoid inhalation of vapours and contact with skin and eyes. Provide adequate ventilation.

6.2. Environmental precautions

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Environmental precautions

Avoid discharge to the aquatic environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up

Wear protective clothing as described in Section 8 of this safety data sheet. Absorb spillage with inert, damp, non-combustible material. Flush contaminated area with plenty of water. Do not empty into drains. Collect and place in suitable waste disposal containers and seal securely. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. Dispose of contents/container in accordance with national regulations.

6.4. Reference to other sections

Reference to other sections

See Section 11 for additional information on health hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions

Read and follow manufacturer's recommendations. Avoid inhalation of vapours and contact with skin and eyes. Provide adequate ventilation.

Advice on general occupational hygiene

No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions

Store in a cool and well-ventilated place.

7.3. Specific end use(s)

Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Sodium hydroxide

Short-term exposure limit (15-minute): WEL 2 mg/m³

WEL = Workplace Exposure Limit

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Provide eyewash station.

Eye/face protection

Chemical splash goggles.

Hand protection

Wear protective gloves. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374.

Other skin and body protection

Wear appropriate clothing to prevent any possibility of skin contact.

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Hygiene measures

Wash contaminated skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn.

Environmental exposure controls

Keep container tightly sealed when not in use.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance

Liquid.

Colour

Light (or pale). Brown.

Odour

Characteristic.

Odour threshold

Not available.

pH

Not available.

Melting point

Not available.

Initial boiling point and range

Not available.

Flash point

Not available.

Evaporation rate

Not available.

Evaporation factor

Not available.

Flammability (solid, gas)

Not relevant.

Upper/lower flammability or explosive limits

Not available.

Vapour pressure

Not available.

Vapour density

Not available.

Relative density

Not available.

Bulk density

Not available.

Solubility(ies)

Soluble in water.

Partition coefficient

Not available.

Auto-ignition temperature

Not available.

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Decomposition Temperature

Not available.

Viscosity

Not available.

Explosive properties

Not considered to be explosive.

Oxidising properties

Does not meet the criteria for classification as oxidising.

9.2. Other information

Other information

No information required.

SECTION 10: Stability and reactivity

10.1. Reactivity

There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability

Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Will not polymerise.

10.4. Conditions to avoid

Avoid excessive heat for prolonged periods of time.

10.5. Incompatible materials

Materials to avoid

Avoid contact with acids.

10.6. Hazardous decomposition products

None at ambient temperatures. Thermal decomposition or combustion products may include the following substances: Oxides of carbon.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD50)

Based on available data the classification criteria are not met.

ATE oral (mg/kg)

6,720.43010753

Acute toxicity - dermal

Notes (dermal LD50)

Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC50)

Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data

Corrosive to skin.

Serious eye damage/irritation

Corrosivity to eyes is assumed.

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Respiratory sensitisation

Based on available data the classification criteria are not met.

Skin sensitisation

Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro

Based on available data the classification criteria are not met.

Genotoxicity - in vivo

Based on available data the classification criteria are not met.

Carcinogenicity

Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility

Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure

Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure

Based on available data the classification criteria are not met.

Aspiration hazard

Not anticipated to present an aspiration hazard, based on chemical structure.

Toxicological information on ingredients.

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Etidronic acid

Acute toxicity - oral

Notes (oral LD50)

Harmful if swallowed.

ATE oral (mg/kg)

500.0

Acute toxicity - dermal

Notes (dermal LD50)

> 10000 mg/kg Rat REACH dossier information. Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC50)

Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data

No information available.

Serious eye damage/irritation

Causes serious eye damage.

Respiratory sensitisation

No information available.

Skin sensitisation

Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising. REACH dossier information. Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro

Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Genotoxicity - in vivo

Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Carcinogenicity

NOAEL 493 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility

No information available.

Reproductive toxicity - development

No information available.

Specific target organ toxicity - single exposure

STOT - single exposure

Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure

NOAEL 1724 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Aspiration hazard

Not relevant.

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Sodium hydroxide

Acute toxicity - oral

Notes (oral LD50)

Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD50)

Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC50)

Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data

Skin Corr. 1A - H314 REACH dossier information.

Serious eye damage/irritation

Corrosive to skin. Corrosivity to eyes is assumed.

Respiratory sensitisation

Based on available data the classification criteria are not met.

Skin sensitisation

Patch test - Human: Not sensitising. REACH dossier information. Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro

Bacterial reverse mutation test: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Carcinogenicity

Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility

Based on available data the classification criteria are not met.

Reproductive toxicity - development

Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure

Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure

Based on available data the classification criteria are not met.

Aspiration hazard

Not anticipated to present an aspiration hazard, based on chemical structure.

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Sodium hydrogensulphate

Acute toxicity - oral

Notes (oral LD50)

Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD50)

Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC50)

Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data

Dose: 500 mg, 4 hours, Rabbit Erythema/eschar score: Very slight erythema - barely perceptible (1). Oedema score: No oedema (0). REACH dossier information. Based on available data the classification criteria are not met.

Serious eye damage/irritation

Causes serious eye damage.

Respiratory sensitisation

No information available.

Skin sensitisation

Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising. REACH dossier information. Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro

Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Carcinogenicity

No information available.

Reproductive toxicity

Reproductive toxicity - fertility

Based on available data the classification criteria are not met.

Reproductive toxicity - development

Maternal toxicity: - NOAEL: 2800 mg/kg/day, Oral, Mouse REACH dossier information. Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure

Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure

NOEL 1000 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Aspiration hazard

Not anticipated to present an aspiration hazard, based on chemical structure.

SECTION 12: Ecological Information

Ecotoxicity

The product is not expected to be hazardous to the environment. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

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Not considered toxic to fish.

Ecological information on ingredients.

Etidronic acid

Acute toxicity - fish

NOEC, 96 hours: 180 mg/l, Onchorhynchus mykiss (Rainbow trout) REACH dossier information.

Acute toxicity - aquatic invertebrates

EC₅₀, 48 hours: 527 mg/l, Daphnia magna REACH dossier information.

Sodium hydroxide

Acute toxicity - aquatic invertebrates

EC₅₀, 48 hours: 40.4 mg/l, Ceriodaphnia dubia REACH dossier information.

Sodium hydrogensulphate

Acute toxicity - fish

LC₅₀, 96 hours: 7960 mg/l, Pimephales promelas (Fat-head Minnow) REACH dossier information.

Acute toxicity - aquatic invertebrates

LC₅₀, 48 hours: 1766 mg/l, Daphnia magna REACH dossier information.

12.2. Persistence and degradability

Persistence and degradability

No data available.

Ecological information on ingredients.

Etidronic acid

Biodegradation

The product is not readily biodegradable.

Biological oxygen demand

15.1 mg O₂/l REACH dossier information.

Sodium hydroxide

Persistence and degradability

The degradability of the product is not known.

Sodium hydrogensulphate

Persistence and degradability

Substance is inorganic.

Biodegradation

Scientifically unjustified.

12.3. Bioaccumulative potential

No data available on bioaccumulation.

Partition coefficient

Not available.

Hydroplex 406

Ecological information on ingredients.

Etidronic acid

BCF: 31, Cyprinus carpio (Common carp) REACH dossier information. The product is not bioaccumulating.

Partition coefficient

log Pow: -3.5 REACH dossier information.

Sodium hydroxide

No data available on bioaccumulation.

Sodium hydrogensulphate

BCF: 0.5, REACH dossier information. The product is not bioaccumulating.

12.4. Mobility in soil

Mobility

The product is soluble in water.

Ecological information on ingredients.

Etidronic acid

Mobility

The product is soluble in water.

Sodium hydroxide

Mobility

The product is soluble in water.

Sodium hydrogensulphate

Mobility

The product is soluble in water.

12.5. Results of PBT and vPvB assessment

This product does not contain any substances classified as PBT or vPvB.

Ecological information on ingredients.

Etidronic acid

This substance is not classified as PBT or vPvB according to current EU criteria.

Sodium hydroxide

This substance is not classified as PBT or vPvB according to current EU criteria.

Sodium hydrogensulphate

This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Not determined.

Ecological information on ingredients.

Etidronic acid

None known.

Sodium hydroxide

None known.

Sodium hydrogensulphate

None known.

SECTION 13: Disposal considerations

Hydroplex 406

13.1. Waste treatment methods

Disposal methods

Reuse or recycle products wherever possible. When handling waste, the safety precautions applying to handling of the product should be considered. Dispose of contents/container in accordance with national regulations.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	1760
UN No. (IMDG)	1760
UN No. (ICAO)	1760
UN No. (ADN)	1760

14.2. UN proper shipping name

Proper shipping name (ADR/RID) CORROSIVE LIQUID, N.O.S. (CONTAINS SODIUM HYDROXIDE, ETIDRONIC ACID)

Proper shipping name (IMDG) CORROSIVE LIQUID, N.O.S. (CONTAINS SODIUM HYDROXIDE, ETIDRONIC ACID)

Proper shipping name (ICAO) CORROSIVE LIQUID, N.O.S. (CONTAINS SODIUM HYDROXIDE, ETIDRONIC ACID)

Proper shipping name (ADN) CORROSIVE LIQUID, N.O.S. (CONTAINS SODIUM HYDROXIDE, ETIDRONIC ACID)

14.3. Transport hazard class(es)

ADR/RID class	8
ADR/RID classification code	C9
ADR/RID label	8
IMDG class	8
ICAO class/division	8
ADN class	8

Transport labels



14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ICAO packing group	III
ADN packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

EmS	F-A, S-B
ADR transport category	2
Emergency Action Code	2X
Hazard Identification Number (ADR/RID)	80
Tunnel restriction code	(E)

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14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

EH40/2005 Workplace exposure limits. The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).

EU legislation

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Classification procedures according to Regulation (EC) 1272/2008

Skin Corr. 1B - H314, Eye Dam. 1 - H318: Calculation method.

Revision date 29/08/2014

SDS number 1235

Risk phrases in full

R22 Harmful if swallowed.
R34 Causes burns.
R35 Causes severe burns.
R41 Risk of serious damage to eyes.

Hazard statements in full

H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.

Disclaimer

The information contained in this safety data sheet does not constitute an assessment of workplace risks. The customer should undertake a formal COSHH assessment which should ensure that employees are aware of the hazards/precautions detailed in this safety data sheet. The COSHH assessment should also ensure that recommended safety equipment is available and where applicable, that the exposure limits detailed in Section 8 are not being exceeded. The above information is based on current knowledge at the time of publication and is given in good faith. Hydro-X Water Treatment Ltd implies no warranty as to the suitability of the product for any purpose other than outlined on the Product Data Sheet.