SAFETY DATA SHEET

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP), 2015/830, 2020/878 and THE REACH etc. (AMENDMENT etc)(EU EXIT) REGULATIONS 2020

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name	Hydro-X Super
CAS No.	Mixture
EC No.	Mixture
REACH Registration No	Not applicable
Unique Formulation Identifier	

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

Identified Use(s)	Boiler water conditioning agent
Uses Advised Against	No specific uses advised against are identified

1.3 Details of the supplier of the safety data sheet

Supplier	
Company Identification	Hydro-X Group Ltd
Address of Supplier	Unit 1, Manor Drive Dinnington South Yorkshire
Postal code	S25 3QU
Telephone:	+44 (0) 1909 565133
Fax	+44 (0) 1909 564301
E-mail	technical@hydro-x.co.uk

1.4 Emergency telephone number

Emergency Phone No.	+44 (0) 1909 565133 (09:00-17:00 UK time)
National response centre	
Address	National Poisons Information Service
Emergency Phone No.	+44 (0) 344 892 0111 (Healthcare Professionals only) NHS Direct +44 111 (Members of the public)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008 (CLP)	Skin Corrosion	Category 1B
	Eye Damage	Category 1

2.2 Label elements — According to Regulation (EC) No. 1272/2008 (CLP)

Product Name: Hydro-X Super

Hazard Pictogram(s)

GHS05

Signal Word(s): Danger

Hazard Statement(s): H314: Causes severe skin burns and eye damage

Precautionary Statement(s):
P280: Wear protective gloves/protective clothing/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
P305+P351+P338+P310: IF IN EYES Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing. Immediately call a POISON CENTRE or doctor/physician
P310: Immediately call a POISON/CENTER/doctor
P501: Dispose of contents in accordance with local, state or national legislation

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

2.4 Additional Information

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances Not applicable

3.2 Mixtures

HAZARDOUS INGREDIENT(S)	CAS No.	EC No. / REACH Registration No.	%W/W	Hazard Statement(s)	Hazard Pictogram(s)
Sodium hydroxide	1310-73-2	215-185-5 01-2119457892-27-xxxx	10-22	Skin Corr. 1B H314 Eye Dam. 1 H318	GHS05
Trisodium phosphate	10101-89-0	600-151-8 / 01-2119489800-36-xxxx	1-2.5	Skin Irrit.2 H315 Eye Irrit. 2 H319 STOT SE3 H335	GHS07

See Section 16 for full text of abbreviations

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	Remove affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Obtain medical attention if breathing remains difficult.
Skin Contact	Remove contaminated clothing and footwear. Wash skin thoroughly with soap and water. Get medical attention if symptoms are severe or persevere after washing. Chemical burns must be treated by a physician Wash contaminated clothing thoroughly before removing it from the affected person, or wear gloves. Do NOT carry out mouth-to-mouth resuscitation.
Eye Contact	OBTAIN MEDICAL ATTENTION IMMEDIATELY Rinse immediately with plenty of water. Remove contact lenses if present and easy to do so. Continue to rinse for at least 15 minutes. Transfer to hospital for specialist examination.
Ingestion	If patient is conscious, wash out mouth with water and make patient drink plenty of water. Do NOT induce vomiting. If vomiting occurs, keep head low so that vomit does not enter the lungs. Obtain medical attention if discomfort continues.

4.2 Most important symptoms and effects, both acute and delayed

Skin contact	Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur
Eye contact	Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness
Ingestion	May cause chemical burns in the mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, Vomiting
Inhalation	Corrosive to the respiratory tract. Symptoms following overexposure may include the following: Severe irritation of nose and throat., headache, fatigue, dizziness and nausea See also Section 11

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
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 as appropriate for surrounding fire.
Unsuitable extinguishing media	Do not use water jet

5.2 Special hazards arising from the substance or mixture

Containers can burst or explode under pressure when heated. Severe corrosive hazard. Water used for extinguishing that has been in contact with product may be corrosive. Combustion evolves toxic or corrosive gases: Carbon monoxide and dioxide (CO2 and CO), Phosphorus oxides (POx)

5.3 Advice for firefighters

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

Special protective equipment

Regular protection may not be adequate. Fire fighters should wear chemical protective clothing including self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear suitable protective clothing, gloves and eye/face protection. Do not touch or walk into spilled material. Avoid inhalation of vapours and spray/mists. Avoid contact with skin and eyes. Provide adequate ventilation

6.2 Environmental precautions

Avoid discharge to the aquatic environment. If necessary, dike the product with dry earth, sand or similar non-combustible materials.

6.3 Methods and material for containment and cleaning up

Wear protective clothing as described in Section 8 of this Safety Data Sheet. Absorb spillage with sand, earth or other non-combustible material. Transfer waste to labelled, sealed containers. Flush contaminated area with plenty of water. Do not empty into drains. Dispose of waste to licensed waste disposal site in accordance with local and national regulations.

6.4 Reference to other sections

See Also Sections 8,11 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Read and follow the manufacturer's instructions. Wear protective clothing as described in section 8 of this safety data sheet. Avoid inhalation of vapours and contact with skin and eyes. Provide adequate ventilation.

Follow principles of good occupational hygiene. Wash hands thoroughly after handling. Change contaminated clothes at the end of working shift.

7.2 Conditions for safe storage, including any incompatibilities

Store in tightly closed original container in a cool and well-ventilated place.

Storage temperature	Ambient.
Storage life	Stable under normal conditions.
Incompatible materials	Strong acids. Aluminium. Powdered metal

7.3 Specific end use(s)

Boiler water conditioning agent

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits — UK (EH40/2005 Fourth Edition 2020)

Ingredient	LTEL (8 hours)	STEL (15 minutes)
Sodium hydroxide	-	2 mg/m3

DNEL — Not available
PNEC — Not available

8.2 Exposure controls

8.2.1. Appropriate engineering controls	Provide adequate ventilation. Use process enclosures and other engineering controls including local exhaust ventilation to minimise worker exposure.

8.2.2. Personal protection equipment

Eye Protection — Wear tightly fitting safety goggles (EN166).

Skin protection — Wear protective clothing, footwear and gloves: Impervious gloves (EN 374). Breakthrough time: 480 minutes. Consult supplier regarding glove material and breakthrough times.

Respiratory protection — If ventilation is inadequate to control exposure, a suitable mask with a particle filter or organic vapour filter type A (EN136, EN140 EN405 or EN14387) may be appropriate. Ensure that equipment is 'CE' or 'UKCA' marked and respirator fits tightly.

8.2.3. Environmental Exposure Controls	Keep container tightly sealed when not in use. Check emissions from ventilation or process equipment to ensure that they comply with workplace and environmental legislation.
Additional comments	Provide eyewash station. Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product.

SECTION 9:PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Liquid
Colour	Amber
Odour	Slight. Ammoniacal
pH	13.5-14
Melting point/freezing point	Not available
Initial boiling point and boiling range	Not available
Flash Point	Test not scientifically justifiable: solution in water
Evaporation rate (n-butyl acetate=1)	Not available
Flammability (solid, gas)	Test not scientifically justifiable: solution in water
Upper/lower flammability or explosive limits	Test not scientifically justifiable: solution in water
Vapour pressure at 20 degC	2 kPa (Estimated)
Vapour density	Not applicable : water
Density (g/ml)	1.18 at 25 degC
Relative density	1.18
Solubility(ies)	Miscible with water
Partition coefficient: n-octanol/water	Test not scientifically justifiable for mixture. See Section 12.3
Auto-ignition temperature	Test not scientifically justifiable: solution in water
Decomposition Temperature (°C)	Test not scientifically justifiable: solution boils
Viscosity at 20 degC	Not available
Explosive properties	Test not scientifically justifiable: solution in water
Oxidising properties	Study does not need to be conducted. On basis of chemical structures of ingredients, product is incapable of reacting exothermically with combustible material.

9.2 Other information

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	Flammable hydrogen gas is produced on reaction with aluminium
10.2 Chemical Stability	Stable at normal ambient temperatures and when used as recommended.
10.3 Possibility of hazardous reactions	No potentially hazardous reactions known Will not polymerise
10.4 Conditions to avoid	Avoid excessive heat for prolonged periods of time

10.5 Incompatible materials Strong acids. Aluminium. Powdered metal

10.6 Hazardous decomposition products

Does not decompose when used and stored as recommended. Thermal decomposition or combustion may generate corrosive or toxic fumes: Carbon monoxide and dioxide (CO2 and CO), Phosphorous oxides (POx)

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity - Ingestion	Based on available data, the classification criteria are not met ATE > 2000 mg/kg
Acute toxicity - Skin Contact	Based on available data, the classification criteria are not met ATE > 20 mg/kg
Acute toxicity - Inhalation	Based on available data, the classification criteria are not met ATE > 2000 mg/kg
Skin corrosion/irritation	Causes severe burns (Calculated)
Serious eye damage/irritation	Causes serious eye damage (Corrosive to skin. Corrosivity to eyes is assumed)
Skin sensitization data	Based on available data, the classification criteria are not met
Respiratory sensitization data	Based on available data, the classification criteria are not met
Germ cell mutagenicity	Does not contain any ingredients classified as mutagenic
Carcinogenicity	Does not contain any ingredients classified as carcinogenic
Reproductive toxicity	Does not contain any ingredients classified as toxic to reproduction
Lactation	Based on available data, the classification criteria are not met
STOT - single exposure	May cause respiratory irritation
STOT - repeated exposure	Based on available data, the classification criteria are not met
Aspiration hazard	Based on available data, the classification criteria are not met

11.1.2 Toxicological Data

	LD50 (Ingestion) mg/kg	LC50 (Inhalation) mg/l	LD50 (Skin Contact) mg/kg
Sodium hydroxide	500	Not available	Not available
Trisodium phosphate	2000	830	2000

11.1.5 Symptoms/routes of exposure

Skin contact Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur

Eye contact Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness

Ingestion May cause chemical burns in the mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, Vomiting

Inhalation Corrosive to the respiratory tract. Symptoms following overexposure may include the following: Severe irritation of nose and throat.

11.1.6 Symptoms related to the potential physical, chemical and toxicological characteristics Skin disorders, breathing difficulty

11.1.7 Delayed and immediate effects as well as chronic effects from short and long term exposure Inhalation and ingestion may cause following adverse effects: Irritation of mouth, throat and respiratory tract, coughing, dizziness, drowsiness, headache, nausea, vomiting, stomach pain, central nervous system depression.
Skin contact may cause irritation, redness and blistering

11.1.10 Mixtures Mixture has not been tested for effects as a whole.

Sodium hydroxide Corrosive to eyes and skin. Irritating to respiratory system

Trisodium phosphate Irritating to respiratory system

11.2.1 Endocrine disrupting properties Does not contain any ingredients with endocrine disrupting properties

11.2.2 Information on other hazards

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity Based on available data, the classification criteria are not met

Toxicity - Fish	Not available
Toxicity - Aquatic invertebrates	ATE> 150 mg/l

Toxicity - Algae Not available

	LC50 (Fish) mg/L	EC50 (Daphnia) mg/L	EC50 (Algae) mg/L
Sodium hydroxide	Not available	40	Not available
Trisodium phosphate	100	100	100

12.2 Persistence and Degradation Ingredients are not biodegradable

12.3 Bioaccumulative potential The ingredients of the product are not bioaccumulative

	Log KoW	BCF
Sodium hydroxide	Not feasible	Test not performed: Low potential for bioaccumulation
Trisodium phosphate	Not feasible	Test not performed: Low potential for bioaccumulation

12.4 Mobility in soil The ingredients in this product have high mobility in soil

12.5 Results of PBT and vPvB assessment
The ingredients of the product are not classified as PBT or vPvB

12.6 Endocrine disrupting properties The European Chemical Agency Endocrine Disruptor Assessment List does not include any of the product's ingredients

12.7 Other adverse effects

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods Minimise or avoid the generation of waste wherever possible. Reuse or recycle products wherever possible. When handling waste, follow the safety precautions that apply to the handling of the product. Dispose of this product in accordance with local and national legislation. Disposal is normally by a licensed waste disposal contractor

13.2 Additional Information Disposal should be in accordance with local, state or national legislation.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number (ADR, RID, ADN, IATA, ICAO, IMDG) UN1824

14.2 UN proper shipping name SODIUM HYDROXIDE SOLUTION

14.3 Transport hazard class(es) 8 ADR/RID classification code: C5

Transport labels

14.4 Packing group II

14.5 Environmental hazards Not a marine pollutant

14.6 Special precautions for user

EmS F-A, S-B

ADR Transport category 2

Emergency Action Code 2R

Hazard Identification Number (ADR/RID) 80

Tunnel restriction code E

14.7 Maritime transport in bulk According to IMO instruments Not applicable

SECTION 15: REGULATORY INFORMATION

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

National Regulations	Health and Safety at Work etc. Act 1974 (As amended) The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"] The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 EH40/2005 Workplace Exposure Limits The REACH etc. (Amendment etc)(EU Exit) Regulations 2020

European Regulations - Authorisations and/or Restrictions On Use

(EC) 1907/2006 (REACH) and amendments

(EC)1272/2008 - Classification, Labelling & Packaging Regulation

15.2 Chemical Safety Assessment A REACH chemical safety assessment has not been carried out by the supplier

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: #1 to #16

LEGEND

Hazard Pictogram(s)
Section #2 and *Section #3*

GHS05

GHS07

Hazard classification Section #2	Skin Corrosion Eye Damage	Category 1B Category 1

Hazard Statement(s)
Section #2 and *Section #3*

H314: Causes severe skin burns and eye damage

H315: Causes skin irritation
H318: Causes serious eye damage
H319: Causes serious eye irritation
H335: May cause respiratory irritation

Acronyms

AND: European Agreement on the International Carriage of Dangerous Goods by Inland Waterways
ADR: European Agreement on the International Carriage of Dangerous Goods by Road
ATE: Acute Toxicity Estimate
BCF: Bioaccumulation Concentration Factor
CAS : Chemical Abstracts Service
CLP : Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DNEL : Derived No Effect Level
EC : European Community
ECHA: European Chemical Agency
EH40: UK Health and Executive EH40/2005 publication – Workplace exposure limits
EINECS : European Inventory of Existing Commercial Chemical Substances
IATA: International Air Transport Authority
IBC: International Bulk Carriers
ICAO:International Civil Aviation Organisation
IEC: International Electrotechnical Commission
IMDG:International Maritime Dangerous Goods (Code)
LTEL : Long term exposure limit
PBT : Persistent, Bioaccumulative and Toxic
PNEC : Predicted No Effect Concentration
REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals

	RID: Agreement on the International Carriage of Dangerous Goods by Rail STEL : Short term exposure limit STOT : Specific Target Organ Toxicity vPvB : very Persistent and very Bioaccumulative
Sources of information	UK Health and Executive EH40/2005 publication – Workplace exposure limits European Chemical Agency : Guidance and Registered Substances Database Suppliers' Safety Data Sheets
Calculation, classification and labelling methods	(EC) 1272/2008: Annex I Additivity Method (Acute Toxicity) " Summation Method (Aquatic toxicity) Tables 3.2.3, 3.3.3 and 3.7.2 (Irritation etc) Annex IV ECHA Guidance Notes
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