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

· **1.1 Product identifier**

· **Trade name:** **Hydro-Solv L1-C Tablets**

· **Article number:** 9739
· **Registration number** Mixture
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
· **Product category** PC37 Water treatment chemicals
· **Application of the substance / the mixture** Water treatment
· **Uses advised against**
Processes involving extreme heat use advised against.
Processes involving the use of incompatible substances - refer to section 10.

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**

Hydro-X Group
Unit 1, Manor Drive,
Outgang Lane,
Dinnington,
South Yorkshire,
S25 3QU
info@hydro-x.co.uk(email)

· **Further information obtainable from:** Product safety department.
· **1.4 Emergency telephone number:** 01909 565133 (not 24 hours)

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**


GHS03 flame over circle

Ox. Sol. 3 H272 May intensify fire; oxidiser.


GHS06 skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.


GHS08 health hazard

Repr. 1B H360FD May damage fertility. May damage the unborn child.


GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.


GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
· **Hazard pictograms** GHS03, GHS06, GHS08, GHS09
· **Signal word** Danger

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· **Hazard-determining components of labelling:**
Sodium nitrite
Disodium tetraborate, decahydrate
Methyl-1H-benzotriazole
· **Hazard statements**
H272 May intensify fire; oxidiser.
H301 Toxic if swallowed.
H319 Causes serious eye irritation.
H360FD May damage fertility. May damage the unborn child.
H400 Very toxic to aquatic life.
· **Precautionary statements**
P221 Take any precaution to avoid mixing with combustibles.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P273 Avoid release to the environment.
P270 Do not eat, drink or smoke when using this product.
P202 Do not handle until all safety precautions have been read and understood.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 7632-00-0 EINECS: 231-555-9	Sodium nitrite Ox. Sol. 3, H272; Acute Tox. 3, H301; Aquatic Acute 1, H400	50-100%
CAS: 1303-96-4 EINECS: 215-540-4	Disodium tetraborate, decahydrate Repr. 1B, H360FD; Eye Irrit. 2, H319	10-25%
CAS: 29385-43-1 EINECS: 249-596-6	Methyl-1H-benzotriazole Aquatic Chronic 2, H411; Acute Tox. 4, H302	≤ 2.5%

· **SVHC**

1303-96-4	Disodium tetraborate, decahydrate

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:**
Immediately remove any clothing soiled by the product.
In case of irregular breathing or respiratory arrest provide artificial respiration.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
DO NOT DELAY!
Immediately rinse with water.
If skin irritation continues, consult a doctor.
· **After eye contact:**
DO NOT DELAY!
Check for and remove any contact lenses.
Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:**
DO NOT DELAY!

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Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.
If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

· **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.

· **Information for doctor:**
Risk of pulmonary edema. Symptoms can appear later. Danger of methaemoglobin formation after ingestion of soium nitrite .
Treatment: Treat according to symptoms (decontamination, vital functions), treat with toluonium chloride to reverse methaemoglobinanaemia.

· **Hazards** Cyanosis

· **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:** Water

· **For safety reasons unsuitable extinguishing agents:** Use ONLY water!

· **5.2 Special hazards arising from the substance or mixture**
Strong oxidiser. Contact with combustible or flammable substances may cause fire.
Not combustible but enhances combustion of other substances.
Many reactions may cause fire or explosion.
Gives off irritating or toxic fumes (or gases) in a fire.

· **5.3 Advice for firefighters**

· **Protective equipment:**
Do not inhale explosion gases or combustion gases.
Wear self-contained respiratory protective device.
Wear fully protective suit.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Ensure adequate ventilation

· **6.2 Environmental precautions:** Do not allow to penetrate the ground/soil.

· **6.3 Methods and material for containment and cleaning up:**
Pick up mechanically.
Send for recovery or disposal in suitable receptacles.
Do not use combustible materials such as paper towels to clean up spills.

· **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Prevent formation of dust.
Ensure good ventilation/exhaustion at the workplace.
Avoid direct contact (skin/eye contact, ingestion and/or inhalation of fume/mist/dust) with the product.
Safety showers and eye wash facilities should be available at the work area.

· **Information about fire - and explosion protection:**
The product is potentially explosive when mixed with organic materials.
Sodium nitrite is non-combustible. It has a fire-promoting effect due to release of oxygen.

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· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Unsuitable material for receptacle: aluminium.
Do not store on combustible materials such as wooden floors or wooden pallets.
Prevent any seepage into the ground.
Do not store products containing nitrites together with ammonium salts (e.g. ammonium sulphate, ammonium chloride or ammonium carbonate, nitrogen-containing fertilisers) or amides (such as urea) and products containing them. Similarly, it may react violently with reducing agents, e.g. alkali sulphites and dithionites.
Do not store in aluminium or galvanised containers.
· **Information about storage in one common storage facility:**
Store away from flammable substances.
Do not store together with acids.
· **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**
· **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**
· **Personal protective equipment:**
Select PPE appropriate for the operations taking place taking into account the product properties.
· **General protective and hygienic measures:**
Do not breath dust
Do not eat, drink, smoke or sniff while working.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Pregnant women should strictly avoid inhalation or skin contact.
A safe system of work must be formulated and followed to ensure that workers who may be pregnant or breastfeeding do not come into direct contact with the product.
A safe system of work must be formulated and followed to ensure safe working with this product. Relevant workers must receive suitable and sufficient training and supervision.
· **Respiratory protection:**
Use suitable respiratory protective device in case of insufficient ventilation.
Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.
· **Protection of hands:**


Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**

Tightly sealed goggles

· **Body protection:**
Impervious protective clothing
Body protection must be chosen depending on product properties, activity and possible exposure.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**
· **General Information**

· **Appearance:**	
Form:	Tablets
Colour:	Whitish
· **Odour:**	Mild
· **Odour threshold:**	Not determined.
· **pH-value:**	Not applicable.
· **Change in condition**	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
· **Flash point:**	Not applicable.
· **Flammability (solid, gaseous):**	Not determined.
· **Ignition temperature:**	
Decomposition temperature:	Not determined.
· **Self-igniting:**	Product is not self-igniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapour pressure:**	Not applicable.
· **Density at 20 °C:**	2.1 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not applicable.
· **Evaporation rate**	Not applicable.
· **Solubility in / Miscibility with water:**	Soluble.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not applicable.

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Kinematic:	Not applicable.
· **9.2 Other information**	No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
Unstable if heated; may explode at temperatures in excess of 320 degrees C.
· **10.3 Possibility of hazardous reactions**
The sodium nitrite component will decompose on contact with acids producing toxic fumes (nitrogen oxides).
The product is a strong oxidant and reacts with combustible and reducing materials causing fire and explosion hazard.
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:**
Strong acids.
Reducing agents
Combustible materials.
Organic solvents.
Flammable materials
Ammonium salts.
· **10.6 Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)
Boron compounds.
· **Additional information:**
Non-combustible solid.
Soluble in water.

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity**
Toxic if swallowed.

· **LD/LC50 values relevant for classification:**		
7632-00-0 Sodium nitrite		
Oral	LD50	180 mg/kg (rat)
1303-96-4 Disodium tetraborate, decahydrate		
Oral	LD50	>2000 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rabbit)
Inhalative	LC50/4 h	>2.04 mg/l (rat)

· **Primary irritant effect:**
· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation**
Causes serious eye irritation.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **Additional toxicological information:**
ROUTES OF EXPOSURE: The component substances can variously be absorbed into the body by inhalation and by ingestion.

Toxic if swallowed.
May cause nausea, headache, dizziness, weakness and shortness of breath. In severe cases methaemoglobinaemia and a lowering of blood pressure may occur and could prove fatal. Symptoms may include a greyish-blue discoloration of the skin and mucous membranes, rapid shallow breathing, lowered

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blood pressure and increased heart rate. Exposure may result in death. The effects may be delayed. Medical observation is indicated.

· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity**
May damage fertility. May damage the unborn child.
· **STOT-single exposure** Based on available data, the classification criteria are not met.
· **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.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**	
1303-96-4 Disodium tetraborate, decahydrate	
EC50	133 mg/kg (daphnia)

· **12.2 Persistence and degradability** The organic portion of the product is biodegradable.
· **12.3 Bioaccumulative potential** Product is not expected to bioaccumulate.
· **12.4 Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Very toxic for fish
· **Additional ecological information:**
· **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Very toxic for aquatic organisms
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Recommended Hierarchy of Controls:
- Minimise waste;
- Reuse if not contaminated;
- Recycle, if possible; or
- Safe disposal (if all else fails).

Contact waste processors for recycling information.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.
· **European waste catalogue**
Waste key numbers in accordance with the European Waste Catalogue (EWC) are origin-referred defined. Since this product is used in several industries, no waste key can be provided by the supplier. The waste key number should be determined in arrangement with your waste disposal partner or the responsible authority.

· **Uncleaned packaging:**
· **Recommendation:**
Container remains hazardous when empty. Continue to observe all precautions.
Containers, even those that are “empty,” may contain residues that can develop hazardous gases and vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.

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Do not mix with other waste streams.

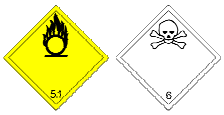
· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· **14.1 UN-Number**	
· **ADR, IMDG, IATA**	UN1500
· **14.2 UN proper shipping name**	
· **ADR**	1500 SODIUM NITRITE (mixture), ENVIRONMENTALLY HAZARDOUS
· **IMDG**	SODIUM NITRITE (mixture), MARINE POLLUTANT
· **IATA**	SODIUM NITRITE (mixture)
· **14.3 Transport hazard class(es)**	
· **ADR**	

· **Class**	5.1 Oxidising substances.
· **Label**	5.1+6.1
· **IMDG**	

· **Class**	5.1 Oxidising substances.
· **Label**	5.1/6.1
· **IATA**	



· **Class**	5.1 Oxidising substances.
· **Label**	5.1 (6.1)
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	III
· **14.5 Environmental hazards:**	Product contains environmentally hazardous substances: Sodium nitrite
· **Marine pollutant:**	Symbol (fish and tree)
· **Special marking (ADR):**	Symbol (fish and tree)
· **14.6 Special precautions for user**	Warning: Oxidising substances.
· **Danger code (Kemler):**	56
· **EMS Number:**	F-A,S-Q
· **Segregation groups**	Nitrites and their mixtures
· **Stowage Category**	A
· **Segregation Code**	SG38 Stow "separated from" ammonium compounds. SG49 Stow "separated from" cyanides
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	Not dangerous according to the above specifications.

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· **ADR**	
· **Limited quantities (LQ)**	5 kg
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· **Transport category**	3
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5 kg
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· **UN "Model Regulation":**	UN 1500 SODIUM NITRITE (mixture), 5.1 (6.1), III, ENVIRONMENTALLY HAZARDOUS

SECTION 15: Regulatory information

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

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **Seveso category**
H2
P8
E1
· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 30

· **National regulations:**

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**

1303-96-4	Disodium tetraborate, decahydrate

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**
H272 May intensify fire; oxidiser.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H360FD May damage fertility. May damage the unborn child.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)

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LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Ox. Sol. 3: Oxidizing solids – Category 3
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Repr. 1B: Reproductive toxicity – Category 1B
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2