

## Safety Data Sheet – Bio-Clean Aqua

### 1. IDENTIFICATION OF THE PREPARATION AND OF THE COMPANY

Commercial Product Name: Bio-Clean Aqua  
Responsible company: Bio-Link Systems Ltd.  
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Thetford  
Norfolk  
Information phone no. Tel: 01842 754767  
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### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Aqueous solution, clear  
Chemical Family Name: Stabilised Hydrogen Peroxide (> 50%)  
CAS No.: 7722-84-1  
EC No.: 231-765-0  
Classification: Xn  
R Phrases: R22, R37/38, R41 (for text see item 15.)

### 3. HAZARDS IDENTIFICATION

Main Hazards: Harmful if swallowed. Irritating to respiratory system and skin. Risk of serious damage to eyes.  
Product is a strong oxidising agent. Danger of decomposition under influence of heat. Risk of decomposition in contact with incompatible substances, impurities, metals, alkalis, reducing agents.  
Risk of explosion with organic solvents.

### 4. FIRST AID MEASURES

General: Move out of dangerous area. Observe self-protection (eye protection, body protection). Keep out unprotected persons. Keep unauthorised persons away.

Eyes: With eye held open thoroughly rinse immediately with plenty of water for at least 10 minutes. Continue rinsing process with eye rinsing solution. Protect unharmed eye. Call an ambulance (cue: caustic burn of eyes). Immediate further treatment in ophthalmic hospital.

Skin: After contact with skin, wash immediately with plenty of water. Remove contaminated clothing immediately. Consult a physician. Immediately rinse contaminated or saturated clothing with water.

Ingestion: Do not induce vomiting. Danger of penetration of the lungs (danger to breathing) when swallowed or vomited, due to gas evolution and foam formation. Only when patient is fully conscious: Have the mouth rinsed with water. Have patient drink plenty of water in small sips. Keep patient warm and at rest.

Inhalation: Possible discomfort: severe irritation of the mucous lining (nose, throat, eyes), cough, sneezing, flow of tears. Take affected person out into the fresh air. If breathing difficulties occur e.g. severe continual coughing: Keep patient half sitting with upper body raised. Keep patient warm and at rest. Call a physician immediately.

Notes to physician: Therapy as for chemical burns.

## 5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Water spray, foam, dry powder, carbon dioxide (CO<sub>2</sub>)

Unsuitable Extinguishing Media: Organic compounds.

Special Hazards During Fire: Product is fire stimulating. Contact with the following substances may cause inflammation: flammable substances. The product itself does not burn. Involved in fire it may decompose yielding oxygen. Risk of overpressure and burst due to decomposition in confined spaces and pipes. Release of oxygen may support combustion.

Protective Equipment for Fire Fighting:

Respiratory protective equipment independent of surrounding air and chemical protective suit.

## 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Product causes chemical burns. Wear personal protective clothing.

Environmental Precautions: Observe regulations on prevention of water pollution.

Methods of Cleaning: Dilute product using plenty of water and rinse away. Dam with sand or earth. Do not permit to enter into surface water, stretches of water and soil undiluted.

## 7. HANDLING AND STORAGE

Handling: The usual precautionary measures for dealing with chemicals should be observed. Avoid impurities and heat effect. **Never return split product to original container for recycling purposes (risk of decomposition).**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not inhale vapour and mist. Avoid sun rays, heat, heat effect. Keep away from incompatible substances.

Storage: Requirements for storage rooms, cool, well ventilated, clean incombustible, lockable. Acid resistant floor, impermeable for the product.

Requirements for containers (Transport/Storage/Handling). Only use containers which are specially permitted for hydrogen peroxide and/or for transport, storage and tank installations only use suitable materials.

Suitable materials are vanadium steel (e.g.D:1.4571 or 1.4571; GB 306L), aluminium (min. 99.5%) and aluminium magnesium alloys.

Use adequate venting devices on all packages, containers and tanks and check correct operation periodically.

Do not confine product in unvented vessels or between closed valves. Risk of overpressure and burst due to decomposition in confined spaces. Do not empty container by means of pressure.

Transport and store container in upright position only.

No outlet on bottom of container.

Packages, containers and tanks should be regularly checked by visual observation for any sign of abnormality e.g.

corrosion, exert pressure (bulging), temperature increase etc. Always close container well, but not hermetically after any removal of product. Ensure tightness at all times; prevent leakages.

Directions on storing materials together.

Do not store together with alkalis, reducing agents, metallic salts (risk of decomposition), combustible substances (risk of fire), organic solvents (risk of explosion).

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits:	Hydrogen Peroxide.
Control Parameters:	1 ppm 1.4 mg/m <sup>3</sup> TWA EH40 OES 2ppm 2.8 mg/m <sup>3</sup> STEL EH40 OES
Suitable measuring processes:	OSHA Method ID 006 & VI-6
Eye Protection:	Basket shaped glasses.
Skin Protection:	Wear PVC, neoprene, natural rubber gloves. Rubber or plastic boots. Flame retarding protective clothing e.g. PVC
Respiratory Protection:	Respiratory protection.
Engineering Control Measures:	Exposure to this material may be controlled in a number of ways. The measures appropriate for a particular worksite depends on how the material is used and on the potential for exposure. Engineering methods to prevent or control exposure are preferred. Methods include process or personal enclosure, mechanical ventilation (dilution and local exhaust) and control of process conditions. If engineering controls and work practices are not effective in preventing or controlling exposure, then suitable personal protective equipment, which is known to perform satisfactorily, should be used.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Colour:	Colourless
Odour	Stinging
PH	>1 – 3 (20 <sup>0</sup> C) Medium: Product
Boiling Range/Point (°C):	114°C
Melting Point (°C):	-52°C
Decomposition temperature:	approx 120°C
Flash point (PMCC) (°C)	Incombustible
Explosion Limits (%)	Not applicable
Solubility in Water (kg/m3)	Miscible
Partition Coefficient (Log Pow):	No data available
Partial Vapour Pressure (H202):	99 Pa (30°C)
Total Vapour Pressure (H202+H20):	2400 Pa (30°C)
Density (kg/m3):	1.196 (20°C) (water = 1)
Viscosity:	1.85 mPa *s (0°C)
Additional information:	Oxidising agent

## 10. STABILITY AND REACTIVITY

Stability and reactivity:	Product is an oxidizing agent and reactive. Stable at room temperature.
Conditions to avoid:.	Risk of decomposition when exposed to heat.
Substances to be avoided:	When coming in contact with the product, impurities, decomposition catalysts, incompatible substances etc. may lead to self accelerating, exothermic decomposition under formation of oxygen. Mixtures with organic materials (e.g. solvents) can have explosive properties (above a certain concentration). Sun rays, heat, heat effect.
Products of decomposition:	Impurities, metal ions, metallic salts, metals, alkalis, hydrochloric acid, reducing agents (risk of decomposition)
Dangerous products of decomposition:	Combustible substances (risk of fire).

Additional guidelines:	Solvents (risk of explosion). Oxygen and water. Under conditions of thermal decomposition: steam and oxygen. Risk of overpressure and burst due to decomposition in confined spaces. Released oxygen may support combustion. Product is stabilised to reduce risk of decomposition due to contamination.
<b>11. TOXICOLOGICAL INFORMATION</b>	
Acute Toxicity:	Oral >800mg/kg LC50 Rat, literature H <sub>2</sub> O <sub>2</sub> 50%
Irritancy – Eyes:	60 weight % = 801-872mg/kg. Highly irritative effect to the eyes, may cause severe conjunctivitis, cornea injury or irreversible damage to the eyes. Symptoms may occur with delay.
Irritancy - Skin	Causes burns. By time of exposure increase locally erythema or severe irritation (white colouration) even to blistering (burning) may occur.
Sub Acute/Chronic Toxicity:	Reproduction toxicity/Teratogenicity: no evidence of teratogenic properties.
Carcinogenic:	None known.
Genotoxicity:	None known.
Reproductive/Development Toxicity:	None known.
<b>12. ECOLOGICAL INFORMATION</b>	
Persistence and Degradability:	
Photo Decomposition:	50% degradation within approx. 20 hours; medium: air.
Mobility and Bio-accumulation:	Bio-accumulation not to be expected due to decomposition into oxygen and water or reduction.
Degradability:	Readily degradable forming oxygen and water or is reduced to it, generally exerting no significant adverse effects on the environment.
Environmental Hazard:	Acute fish toxicity LC50 (96h) 16-37 mg/l. Acute toxicity to crustaceans EC50 (48h) 2,4-7,7 mg/l. Toxicity to algae IC95 (48h) <1.7 mg/l
<b>13. DISPOSAL CONSIDERATIONS</b>	
Product Disposal:	May be disposed of as sewage water in accordance with local regulations by previously diluting with plenty of water. If necessary with small amounts, may be disposed of into surface waters in accordance with national regulations by previously diluting with large quantities of water and with permission of local authority.
Container Disposal:	Rinse empty containers with water prior to disposal. Send decontaminated packaging to local recycling centre.

#### 14. TRANSPORT INFORMATION

UK Transport Information:

Land Transport:

Class	5.1
ADR/RID Labels:	5.1(8)
UN No.	2014
Packaging Group:	II
Orange Warning Plate:	58/2014
Proper Shipping Name:	Hydrogen Peroxide, Aqueous Solution

#### 15. REGULATORY INFORMATION

Labelling information

R phrases

Xn Harmful  
R22 Harmful if swallowed.  
R37/38 Irritating to respiratory system and skin.  
R41 Risk of serious damage to eyes.  
S26 In case of contact with eyes, rinse immediately with water and seek medical advice.  
S28 After contact with skin, wash immediately with plenty of water.  
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
S1/2 Keep locked up and out of reach of children.

S phrases

#### 16. OTHER INFORMATION

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Since the conditions of use are beyond the control of our company, it is the responsibility of the user to determine the conditions of safe use of this preparation.