

## SAFETY DATA SHEET

ACCORDING TO EC-REGULATIONS 2015/830 &amp; 1272/2008 (CLP)

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier**  
Product Name : Bioquell HPV-AQ  
Chemical Name : Hydrogen Peroxide Solution 35%  
Molecular Formula : H<sub>2</sub>O<sub>2</sub>  
Type of Product : Mixture
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**  
Identified use(s) : To be used in conjunction only with Bioquell Hydrogen Peroxide Vapour Generating Equipment.  
Product is for professional use only
- 1.3 Details of the supplier of the Safety Data Sheet**  
Company Identification : Bioquell UK Limited  
Address : 52 Royce Close  
West Portway  
Andover  
Hampshire, UK  
SP10 3TS  
Telephone : +44 (0) 1264 835 835  
Fax : +44 (0) 1264 835 836  
E-mail (details of responsible persons within individual countries) : <http://www.bioquell.com/en-uk/contact/distributors/>
- 1.4 Emergency telephone number**  
Emergency telephone number : Europe: 1-760-476-3961  
Use access code: 333809

### SECTION 2. HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture**  
**2.1.1 Regulation (EC) No. 1272/2008 (CLP)** : Acute Tox. 4: Oral, H302. Inhalation, H332  
Skin Irrit. 2, H315  
Serious Eye Dam. 1, H318  
STOT SE 3. Inhalation, H335
- 2.2 Label elements**  
**2.2.1 Label elements** : According to GHS 5<sup>th</sup> revised edition & Regulation (EC) No. 1272/2008 (CLP)  
Name(s) on Label : Bioquell HPV-AQ  
Hazardous components : Hydrogen peroxide (35%)  
Signal Word : DANGER

Hazard Pictogram :



- Hazard statement(s) : **H302:** Harmful if swallowed  
**H315:** Causes skin irritation  
**H332:** Harmful if inhaled  
**H318:** Causes serious eye damage  
**H335:** May cause respiratory irritation
- Precautionary statement(s)
- Prevention : **P261:** Avoid breathing gas/mist/vapours/spray.  
**P270:** Do not eat, drink or smoke when using this product  
**P280:** Wear protective gloves/eye protection/face protection.
- Response : **P310:** Immediately call a POISON CENTRE or doctor/physician  
**P301 + P312 + P330:** IF SWALLOWED: call a POISON CENTRE or doctor/physician if you feel unwell. Rinse mouth  
**P302 + P352:** IF ON SKIN: Wash with plenty of soap and water.  
**P304 + P340:** IF INHALED: Remove person to fresh air and keep at rest in a position 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.
- Disposal : **P501:** Dispose of contents / container in accordance with EWC160903, or applicable local regulations
- 2.3 **Other hazards** : None
- 2.4 **Additional Information** : None

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 **Mixtures**  
 3.1.1 **Concentration**

Substance Name:	Concentration:
<b>Hydrogen peroxide solution</b>	Ca. 35%
CAS-No.: 7722-84-1 / EC-No.:231-765-0 / Index-No.: 008-003-00-9	
REACH Registration Number: 01-2119485845-22	

Classification according to GHS 5<sup>th</sup> revised edition & Regulation (EC) No. 1272/2008 (CLP)

Hazardous ingredient(s)	Hazard Class	Hazard Category	Route of exposure	H Phrases	Hazard pictogram(s) and Hazard statement(s)
<b>Hydrogen peroxide solution 35%</b>	Acute toxicity	Category 4	Inhalation	H332	Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE3, H335
	Acute toxicity	Category 4	Oral	H302	
	Skin irritant	Category 2		H315	
	Serious eye damage	Category 1		H318	
	Specific target organ toxicity – single exposure	Category 3	Inhalation	H335	

- 3.2 **Additional Information** : For full text of H/P phrases see section 2.

## SECTION 4. FIRST AID MEASURES



First aiders should refer to section 8 for appropriate PPE

**4.1 Description of first aid measures**

- If inhaled : Move the exposed person to fresh air immediately. If person is not breathing, contact emergency medical services, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison centre or doctor for further treatment advice.
- In case of skin contact : Wash with plenty of water and soap. Remove and wash contaminated clothing before re-use. If symptoms persist seek immediate medical attention.
- In case of eye contact : Seek immediate medical attention. Eyes should be washed immediately with plenty of water, also under the eyelids for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.
- If swallowed : Seek immediate medical attention. Rinse mouth and, if conscious, give 2 glasses of water. Never give anything by mouth to an unconscious person. **DO NOT INDUCE VOMITING.** Oxygen or artificial respiration if needed.

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

- Inhalation : Inhalation of vapours is irritating to the respiratory system, may cause throat pain and cough  
Risk of: Nose bleeding, chronic bronchitis.
- Skin Contact : Irritation  
Risk of: Burn, erythema, blisters or even necrosis.
- Eye Contact : Severe eye irritation  
Risk of serious damage to eyes  
Symptoms: Redness, Lachrymation, swelling of tissue.
- Ingestion : Severe irritation  
Symptoms: Nausea, Abdominal pain, Vomiting, Diarrhoea, Risk of chemical pneumonitis from product inhalation

**4.3 Indication of immediate medical attention and special treatment needed**

- : Consult with an ophthalmologist immediately in all cases. If accidentally swallowed obtain immediate medical attention. When symptoms persist or in all cases of doubt, seek medical attention. Because of the likelihood of corrosive effects on the gastrointestinal tract after ingestion, attempts at evacuating the stomach via emesis induction or gastric lavage should be avoided.

**SECTION 5. FIRE-FIGHTING MEASURES**

**5.1 Extinguishing Media**

- Suitable Extinguishing Media : Water, do not use any other substance  
Unsuitable Extinguishing Media : As above

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

- : Not combustible. Decomposes under fire conditions to release oxygen that intensifies the fire. Risk of explosion in closed, unventilated containers due to increased pressure from decomposition gases. Contact with combustible material may cause fire

**5.3 Advice for fire-fighters**

- : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA).  
Wear chemical resistant oversuit and boots (rubber or PVC)  
Cool containers/tanks with water spray  
If safe to do so, move product away from fire to secure area  
Prevent fire extinguishing water from contaminating surface water or the ground water system.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- 6.1 Personal precautions, protective equipment and emergency procedures**
- Advice for non-emergency personnel : Avoid contact with skin, eyes and clothing.  
Prevent further leakage or spillage if safe to do so. Isolate and signpost spill area. Eliminate all sources of ignition.
- Advice for emergency responders : Wear suitable protective equipment. Refer to section 5 for fire-fighting; section 4 for first-aid advice; and section 8 for minimum requirements for personal protective equipment.  
Evacuate personnel to safe areas  
Keep people away from and up wind of spill/leak
- 6.2 Environmental precautions** : Do not allow to enter drains, sewers or watercourses.  
Should not be released into the environment
- 6.3 Methods and material for containment and cleaning up** : Dam up  
Do not mix waste streams during collection  
Soak up with inert absorbant material  
Keep in suitable, closed containers for disposal  
Never return spills in original containers for re-use
- 6.4 Reference to other sections** : Section 1 for emergency contact. Section 8 for information on appropriate personal protective equipment.
- 6.5 Additional Information** : None

**SECTION 7. HANDLING AND STORAGE**

- 7.1 Precautions for safe handling** : Avoid ingestion, inhalation and contact with skin and eyes  
Use only with adequate ventilation.  
Keep away from heat and sources of ignition.  
Keep container tightly closed.  
Wear protective gloves/clothing and eye/face protection.  
Keep away from incompatible products  
Use only clean and dry utensils
- 7.2 Conditions for safe storage, including any incompatibilities**
- Storage Temperature : Store between 4°C to 25°C
- Storage Conditions : Protect from light.  
Keep only in original container  
Keep away from combustible materials and sources of ignition and heat.  
Store in a receptacle equipped with a vent  
Keep container closed  
Regularly check the conditions and temperature of the containers.
- Incompatible materials : Strong acids, strong alkalis, strong oxidising agents, strong reducing agents, organic material, acetone and metals.
- Suitable material : Aluminium 99.5%  
Stainless steel passivated 316  
Approved grades of HDPE  
Polypropylene
- 7.3 Specific end use(s)** : Apart from the use mentioned in Section 1.2 no other specific uses are stipulated. For further information please contact supplier.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### 8.1.1 Exposure Limit Values

Substance	Standard	Type	Exposure Limit Value	Notes
<b>Hydrogen Peroxide</b> <b>CAS: 7722-84-1</b>	UK.EH40 (2011) – Workplace Exposure Limits [WEL]	TWA	1 ppm	LTEL (8hr)
		TWA	1.4 mg/m <sup>3</sup>	LTEL (8hr)
		STEL	2 ppm	
		STEL	2.8 mg/m <sup>3</sup>	
	DE.MAK (2012) – Werte Liste	TWA	0.5 ppm	
		TWA	0.71 mg/m <sup>3</sup>	
	US.ACGIH (2016) – Threshold Limit Values [TLV]	TWA	1 ppm	

#### 8.1.2 Other information on limit values

Substance	Limit	Conditions	Value	Notes
<b>Hydrogen Peroxide</b> <b>CAS: 7722-84-1</b>	Predicted No Effect Concentration [PNEC]	Fresh water	0.13 mg/l	
		Marine water	0.013 mg/l	
		Sewage treatment plants	4.7 mg/l	
	Derived No Effect Level/Derived minimal effect level [DNEL/DMEL]	Workers, inhalation, acute exposure	3 mg/m <sup>3</sup>	Local effects
		Workers, inhalation, chronic exposure	1.4 mg/m <sup>3</sup>	Local effects
		Consumers, inhalation, acute exposure	1.93 mg/m <sup>3</sup>	Local effects
		Consumers, inhalation, chronic exposure	0.21 mg/m <sup>3</sup>	Local effects

### 8.2 Exposure controls

#### 8.2.1 Appropriate engineering controls

- : Ensure adequate ventilation
- Apply technical measures to comply with the occupational exposure limits

#### 8.2.2 Personal protection equipment

##### Eye/face protection



- : Wear chemical safety glasses with side shields, or splash-proof goggles

##### Skin protection (Hand protection/ Other)



- : Impervious gloves
- Suitable material: PVC, butyl-rubber, nitrile rubber
- Any specific glove information provided is based on published literature and glove-manufacturer data. Contact the glove manufacturer for glove selection and breakthrough times for your use conditions.
- Inspect and replace worn or damaged gloves.
- Chemical resistant gloves are recommended.
- If contact with forearms is likely, wear gauntlet-style gloves. Nitrile, CEN standards EN 420 and EN 374 provide general requirements and list of glove types.

##### Respiratory protection



- : If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements.
- Types of respirator to be considered for this mixture include: Half-face filter respirator; Type A filter material CEN standards EN136, EN140 and EN 405 provide respirator masks and EN 149 and EN 143 provide filter recommendations.

Hygiene Measures	:	Eye wash bottles or eye wash stations in compliance with applicable standards Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. When using do not eat, drink or smoke. Wash hands before breaks and at the end of workday. Handle in accordance with good industrial hygiene and safety practice.
Thermal hazards	:	None Known
<b>8.2.3 Environmental Exposure Controls</b>	:	Dispose of rinse water in accordance with local and national regulations See sections 6,7,12,13

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>9.1 Information on basic physical and chemical properties</b>	:	<p>Appearance : Liquid</p> <p>Colour : Colourless</p> <p>Odour : Odourless</p> <p>Molecular weight : 34 g/mol</p> <p>pH (Value) : 2.02 (H<sub>2</sub>O<sub>2</sub> 50%)</p> <p>Melting Point (°C) / Freezing Point (°C) : -33°C (H<sub>2</sub>O<sub>2</sub> 35%)</p> <p>Boiling point/boiling range (°C) : 108°C (H<sub>2</sub>O<sub>2</sub> 35%)</p> <p>Flash Point (°C) : Not applicable</p> <p>Evaporation rate : No data available</p> <p>Flammability (solid, gas) : Not applicable</p> <p>Explosive limit ranges. : No data available</p> <p>Vapour Pressure (mm Hg) : 1 mbar (H<sub>2</sub>O<sub>2</sub> 50%) at 30°C</p> <p>Vapour Density (Air=1) : 1</p> <p>Density (g/ml) : 1.1 - 1.2</p> <p>Solubility (Water) : Miscible with water</p> <p>Solubility (Other) : No data available</p> <p>Partition Coefficient (n-Octanol/water) : Log Pow: -1.57, Method: calculated value</p> <p>Auto Ignition Temperature (°C) : Not flammable</p> <p>Decomposition Temperature (°C) : &gt;60°C, Self-accelerating decomposition temperature (SADT) &lt;60°C, Slow composition</p> <p>Viscosity (mPa.s) : 1.17 mPa.s (H<sub>2</sub>O<sub>2</sub> 50%), at 20°C</p> <p>Explosive properties : Not explosive</p> <p>Oxidising properties : Non-oxidizing</p>
<b>9.2 Other information</b>	:	Surface tension – 75.6 mN/m (H <sub>2</sub> O <sub>2</sub> 50%) at 20°C

## SECTION 10. STABILITY AND REACTIVITY

<b>10.1 Reactivity</b>	:	Stable under normal conditions of use. Decomposes on heating. Potential for exothermic hazard.
<b>10.2 Chemical stability</b>	:	Stable under recommended storage conditions. Sensitive to heat and light.
<b>10.3 Possibility of hazardous reactions</b>	:	Contact with combustible material may cause fire. Contact with flammables may cause fire or explosions. Risk of explosion if heated under confinement. Fire or intense heat may cause violent rupture of packages.
<b>10.4 Conditions to avoid</b>	:	Protect from freezing. Contamination. To avoid thermal decomposition, do not overheat.
<b>10.5 Incompatible materials</b>	:	Acids, bases, metals, Heavy metal salts, powdered metal salts, reducing agents, organic materials, flammable materials .
<b>10.6 Hazardous Decomposition Product(s)</b>	:	Oxygen

## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### 11.1.1 Mixtures

Acute toxicity	:	Acute oral toxicity: LD50, rat, 1,270 mg/kg (H <sub>2</sub> O <sub>2</sub> 35%) Acute inhalation toxicity: LC50 4h, rat, >0.17 mg/l, vapour (H <sub>2</sub> O <sub>2</sub> 50%) Acute dermal toxicity: LD50, rabbit, >2,000 mg/kg (H <sub>2</sub> O <sub>2</sub> 35%)
Skin corrosion/Irritation	:	Rabbit: skin irritation (H <sub>2</sub> O <sub>2</sub> 35%) Irritating to skin. Effects may include: discolouration, Erythema, Odema.
Serious eye damage/eye irritation	:	Rabbit: Severe eye irritation (H <sub>2</sub> O <sub>2</sub> 10%)
Corrosivity	:	Corrosive to eyes. May cause irreversible eye damage.
Sensitisation	:	Guinea pig, did not cause sensitization on laboratory animals
Repeated dose toxicity	:	Oral, 90-day, mouse, Gastrointestinal tract: 300 ppm LOAEL Oral, 90-day, mouse: 100 ppm NOAEL Inhalation, 28-day rat, respiratory system: 10ppm, LOAEL, vapour Inhalation, 28-day, rat: 2ppm, NOAEL, vapour
Carcinogenicity	:	Oral, Prolonged exposure, mouse, Target organs: Duodenum, carcinogenic effects Dermal, prolonged exposure, mouse, animal testing did not show any carcinogenic effects
Mutagenicity	:	In vitro tests have shown mutagenic effects In vivo tests did not show mutagenic effects
Toxicity for reproduction	:	Substance is totally biotransformed (metabolized) Study scientifically unjustified
Specific target organ toxicity – single exposure	:	Inhalation, mice, 665 mg/m <sup>3</sup> . Remarks: RD 50, Irritating to respiratory system, H <sub>2</sub> O <sub>2</sub> 50%

11.2 Other information : None

## SECTION 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Active Ingredient	Duration	Species	Value	Notes
<b>Hydrogen Peroxide</b> <b>CAS: 7722-84-1</b>	LC50, 96 hr	Pimephales promelas (fathead minnows)	16.4 mg/L	
	NOEC, 96 hr	Pimephales promelas	4.3 mg/L	
	EC50, 48 hr	Crustaceans: Daphnia pulex (water flea)	2.4 mg/L	Fresh water, semi static test
	NOEC, 48 hr	Crustaceans: Daphnia pulex	1 mg/L	Fresh water, semi static test
	EC50, 72 hr	Algae: Skeletonema costatum	2.6 mg/L	Growth rate
	NOEC, 72 hr	Algae: Skeletonema costatum	0.63 mg/L	
	NOEC, 72 hr	Algae: Chlorella vulgaris	0.1 mg/L	

### 12.2 Persistence and degradability

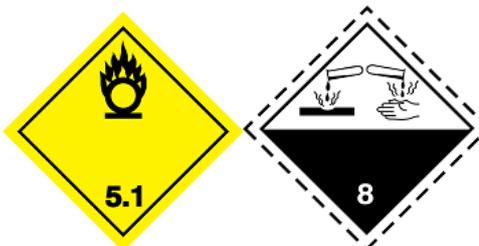
Abiotic Degradation	:	Air, indirect photo oxidation, t1/2: 24 hr (Conditions: sensitizer: OH radicals) Water, redox reaction, t1/2: 120 hr (Conditions: mineral and enzymatic catalysis, fresh water, salt water) Soil, redox reaction, t1/2: 12 hr (Conditions: mineral and enzymatic catalysis)
---------------------	---	---

Biodegradation	:	Aerobic, t1/2 < 2 min (Conditions: biological treatment sludge): Readily biodegradable Aerobic, t1/2 from 0.3 – 5 d (Conditions: fresh water): Readily biodegradable Anaerobic (Conditions: soil/sediments): Not applicable
<b>12.3 Bioaccumulative potential</b>	:	Bioaccumulative potential: Log Pow -1.57 Result – does not bioaccumulate
<b>12.4 Mobility in soil</b>	:	Considerable solubility and mobility
Water	:	
Soil/sediments	:	Log KOC: 0.2, non significant evaporation and adsorption
Air	:	Volatility, Henry's law constant (H), = 0.75 kPa.m <sup>3</sup> /mol Conditions 20°C Not significant
<b>12.5 Results of PBT and VPVB assessment</b>	:	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT) This substance is not considered to be very persistent nor very bioaccumulating (vPvB)
<b>12.6 Other adverse effects</b>	:	No data available

## SECTION 13. DISPOSAL CONSIDERATIONS

<b>13.1 Waste treatment methods</b>	:	Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. Empty containers retain residue (liquid and/or vapour) and can be dangerous. Do not burn, or use a cutting torch on, the empty drum. Dispose of in accordance with the European Directives on waste and hazardous waste. Waste must be classified and labelled prior to recycling or disposal. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.
<b>13.2 Additional Information</b>	:	None

## SECTION 14. TRANSPORT INFORMATION

<b>14.1 Land transport (ADR/RID)</b>	:	
UN number	:	UN 2014
Proper Shipping Name	:	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Transport hazard class(es)	:	5.1
ADR/RID-Labels	:	5.1 – Oxidizing substances 8 - Corrosive
Packing Group	:	II
Hazard label(s)	:	
		
Environmental hazards	:	None
Special precautions for user	:	None

- 14.2 Sea transport (IMDG)**
- UN number : UN 2014
  - Proper Shipping Name : HYDROGEN PEROXIDE, AQUEOUS SOLUTION
  - Transport hazard class(es) : 5.1
  - IMDG Labels : 5.1 – Oxidizing substances  
8 - Corrosive
  - Packing Group : II
  - Marine Pollutant : No
  - Special precautions for user : None
- 14.3 Air transport (ICAO/IATA)**
- UN number : UN 2014
  - Proper Shipping Name : HYDROGEN PEROXIDE, AQUEOUS SOLUTION
  - Transport hazard class(es) : 5.1
  - ICAO labels : 5.1 – Oxidizing substance  
8 – corrosive
  - Packing Group : II
  - Environmental hazards : None
  - Special precautions for user : None
- 14.4 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** : Not applicable

<b>SECTION 15. REGULATORY INFORMATION</b>
---

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture substance or mixture**
- 15.1.1 Biocides Legislation**
- Regulation (EU) No. 528/2012 (BPR) : Compliant.
- 15.1.2 Other EU regulations**
- Regulation (EU) No. 1907/2006 (REACH) : Refer to EU regulation for details of any actions or restrictions by relevant regulations or directives  
Compliant.  
REACH Registration Number: 01-2119485845-22
  - Regulation (EU) No. 1272/2008 (CLP) : Compliant
  - Regulation (EU) No. 1148/2019 (EPP) : Not to be sold to the general public.
- 15.1.3 Other National regulations** : Refer to national regulation for details of any actions or restrictions by relevant regulations or directives
- 15.2 Chemical Safety Assessment** : A Chemical Safety Assessment has been carried out for this mixture (hydrogen peroxide)

**SECTION 16. OTHER INFORMATION**

**The following sections contain revisions or new statements** : 9 and 15 as of September 2020.

**ABBREVIATIONS & ACRONYMS**

UFI : Unique Formula Identifier  
STOT : Specific Target Organ Toxicity  
WEL : Workplace Exposure Limit  
TLV : Threshold Limit Value  
TWA : Time-Weighted Average  
STEL : Short-Term Exposure Limit  
LTEL : Long-Term Exposure Limit  
PNEC : Predicted No Effect Concentration  
DNEL : Derived No Effect Level  
DMEL : Derived Minimal Effect Level  
LOAEL : Lowest-observed-adverse-effect Level  
NOAEL : No-observed-adverse-effect Level  
NOEC : No Observed Effect Concentration

**References** : Sources of information used in preparing this SDS included one or more of the following: results from in-house or supplier toxicology studies; publications from trade associations; ECHA publications; EU guidelines and other sources as appropriate

**Training Advice** : **All users should be trained**

**Additional Information** : None

Information contained in this publication or as otherwise supplied to Users is believed to be accurate and is given in good faith, but it is for the Users to satisfy themselves of the suitability of the product for their own particular purpose. Bioquell gives no warranty as to the fitness of the product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that exclusion is prevented by law. Bioquell accepts no liability for loss or damage (other than that arising from death or personal injury caused by defective product, if proved), resulting from reliance on this information. Freedom under Patents, Copyright and Designs cannot be assumed.