Section: 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name	:	Bioquell HPV-AQ
Product code	:	117773E
Use of the Substance/Mixture	:	Surface Disinfectant
Substance type:	:	Mixture HN – Hot fogging concentrate
Product dilution information	:	Product is sold ready to use.

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

Recommended restrictions on use	:	Reserved for industrial and professional use.

1.3 Details of the supplier of the safety data sheet

Company	:	Ecolab Ltd. 52 Royce Close, West Portway SP10 3TS Andover, United Kingdom +44 (0) 1264 835 835 Bioquell.enquiries@ecolab.com

1.4 Emergency telephone number

Emergency telephone number	:	UK: +0 800 680 0425 Use access code: 333809

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version : 3.1

Section: 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Oxidizing liquids, Category 2	H272
Acute toxicity, Category 4	H302
Skin irritation, Category 2	H315
Serious eye damage, Category 1	H318
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335
Chronic aquatic toxicity, Category 3	H412

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal Word : Danger

Hazard Statements :

H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

Precautionary Statements :

Prevention:

P220	Keep away from clothing and other combustible materials.
P261	Avoid breathing mist or vapours.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P301 + P312 + P330	IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
P312	Call a POISON CENTER/doctor if you feel unwell.
P370 + P378	In case of fire: Use water spray to extinguish.

Storage:

P405	Store locked up.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.

Disposal:

P501	Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations.

Hazardous components which must be listed on the label:
Hydrogen peroxide

2.3 Other hazards

Do not mix with bleach or other chlorinated products – will cause chlorine gas.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous components

Chemical Name	CAS-No. EC-No. REACH No.	Classification REGULATION (EC) No 1272/2008	Concentration : [%]
Hydrogen peroxide	7722-84-1 231-765-0 01-2119485845-22	Nota B Oxidizing liquids Category 1; H271 Acute toxicity Category 4; H302 Acute toxicity Category 4; H332 Skin corrosion Sub-category 1A; H314 Serious eye damage Category 1; H318 Specific target organ toxicity - single exposure Category 3; H335 Chronic aquatic toxicity Category 3; H412 Oxidizing liquids Category 1 H271 >= 70 % Oxidizing liquids Category 2 H272 50 - < 70 % Skin corrosion Category 1A H314 >= 70 % Skin corrosion Category 1B H314 50 - < 70 % Skin irritation Category 2 H315 35 - < 50 % Serious eye damage Category 1 H318 8 - < 50 % Eye irritation Category 2 H319 5 - < 8 % Specific target organ toxicity - single exposure Category 3 H335 >= 35 %	>= 35 - < 50

For the full text of the H-Statements mentioned in this Section, see Section 16.

Section: 4. FIRST AID MEASURES

4.1 Description of first aid measures

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists. Take off immediately all contaminated clothing and wash it before reuse.

If swallowed : Rinse mouth. Do not induce vomiting. Drink water. Call physician immediately.

If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

4.3 Indication of immediate medical attention and special treatment needed

Treatment	:	Treat symptomatically.

Section: 5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	:	Water
Unsuitable extinguishing media	:	Anything other than water Carbon dioxide (CO_2) Dry chemical Foam

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting	:	Oxidizer. Contact with other material may cause fire. On decomposition, releases oxygen which may intensify fire. In case of a fire, if it is possible without risk, remove all containers exposed to the fire and store them in a safe place, away from any source of heat. Cool closed containers exposed to fire with water spray.
Hazardous combustion products	:	Depending on combustion properties, decomposition products may include following materials: Oxygen

5.3 Advice for firefighters

Special protective equipment for firefighters	:	Use personal protective equipment.
Further information	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel	:	Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Move all flammable sources out of danger and keep them away from the scene. Refer to protective measures listed in sections 7 and 8.
Advice for emergency responders	:	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.

6.2 Environmental precautions

Environmental precautions	:	Do not allow contact with soil, surface or ground water. DO NOT hermetically seal any defective containers, including drums (risk of bursting due to the decomposition of the product)

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up	:	Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. Isolate absorbed wastes contaminated with this product from other waste streams containing combustible materials (paper, wood fibers, cloth, etc.).

6.4 Reference to other sections

See Section 1 for emergency contact information.
For personal protection see section 8.
See Section 13 for additional waste treatment information.

Section: 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling	:	Do not ingest. Avoid contact with skin and eyes. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation. Wash hands thoroughly after handling. Do not breathe spray, vapour. Do not mix with bleach or other chlorinated products – will cause chlorine gas. In case of mechanical malfunction, or if in contact with unknown dilution of product, wear full Personal Protective Equipment (PPE).
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Protect from frost, heat and sunlight. Do not store on wooden pallets. Store at room temperature in the original container. Keep in a cool, well-ventilated place. Keep away from reducing agents. Keep away from combustible material. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers. Do not hermetically seal the container. Always transport and store the containers upright. Risk of overpressure and bursting in the event of decomposition in closed containers and in pipes.
Storage temperature	:	5 °C to 25 °C

7.3 Specific end uses

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis

Hydrogen peroxide	7722-84-1	TWA	1 ppm 1.4 mg/m3	UKCOSSTD
		STEL	2 ppm 2.8 mg/m3	UKCOSSTD

DNEL

Hydrogen peroxide	:	End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 1.4 mg/m3 End Use: Workers Exposure routes: Inhalation Potential health effects: Short-term - systemic Value: 3 mg/m3

8.2 Exposure controls

Appropriate engineering controls

Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Individual protection measures

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Eye/face protection (EN 166) : Safety goggles
Face-shield

Hand protection (EN 374) : In case of skin contact it is recommended to wear gloves to avoid oxidation effect (e.g. skin whitening)
Recommended preventive skin protection
Gloves
Nitrile rubber
butyl-rubber
Breakthrough time: 1 – 4 hours
Minimum thickness for butyl-rubber 0.7 mm for nitrile rubber 0.4 mm or equivalent (please refer to the gloves manufacturer/distributor for advise).
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin and body protection (EN 14605) : No special protective equipment required.

Respiratory protection (EN 143, 14387) : When respiratory risks cannot be avoided or sufficiently limited by technical means of collective protection or by measures, methods or procedures of work organization, consider the use of certified respiratory protection equipment meeting EU requirements (89/656/EEC, (EU) 2016/425), or equivalent, with filter type:P

Environmental exposure controls

General advice	:	Consider the provision of containment around storage vessels.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Colour	:	clear, colourless
Odour	:	odourless
pH	:	1.5 - 3.5, 100 %
Flash point	:	Not applicable.
Odour Threshold	:	Not applicable and/or not determined for the mixture
Melting point/freezing point	:	Not applicable and/or not determined for the mixture
Initial boiling point and boiling range	:	> 100 °C
Evaporation rate	:	Not applicable and/or not determined for the mixture
Flammability (solid, gas)	:	Not applicable and/or not determined for the mixture
Upper explosion limit	:	Not applicable and/or not determined for the mixture
Lower explosion limit	:	Not applicable and/or not determined for the mixture
Vapour pressure	:	Not applicable and/or not determined for the mixture
Relative vapour density	:	Not applicable and/or not determined for the mixture
Relative density	:	1.1 - 1.2
Water solubility	:	soluble
Solubility in other solvents	:	Not applicable and/or not determined for the mixture
Partition coefficient: n-octanol/water	:	log Pow: -1.57Method: Calculated
Auto-ignition temperature	:	Not applicable and/or not determined for the mixture
Thermal decomposition	:	Not applicable and/or not determined for the mixture
Viscosity, kinematic	:	0.980 mm2/s (40 °C)
Explosive properties	:	Not applicable and/or not determined for the mixture
Oxidizing properties	:	Yes

9.2 Other information

Not applicable and/or not determined for the mixture

Section: 10. STABILITY AND REACTIVITY

10.1 Reactivity

Decomposes on heating. Potential for exothermic hazard.

10.2 Chemical stability

Decomposes on heating.
Contamination may result in dangerous pressure increases - closed containers may rupture.

10.3 Possibility of hazardous reactions

Do not mix with bleach or other chlorinated products – will cause chlorine gas.

10.4 Conditions to avoid

Heat.
Exposure to light.
Freezing temperatures.

10.5 Incompatible materials

Acids
Bases
Powdered metal salts
Metals
Reducing agents
Flammable materials
Organic materials
Heavy metal salts

10.6 Hazardous decomposition products

Depending on combustion properties, decomposition products may include following materials:
Oxygen

Section: 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Information on likely routes of exposure	:	Inhalation, Eye contact, Skin contact

Product

Acute oral toxicity	:	Acute toxicity estimate : 1,200 mg/kg
		Acute toxicity estimate : 1,389 mg/kg
Acute inhalation toxicity	:	4 h Acute toxicity estimate : > 20 mg/l Test atmosphere: vapour
Acute dermal toxicity	:	There is no data available for this product.
Skin corrosion/irritation	:	There is no data available for this product.
Serious eye damage/eye irritation	:	There is no data available for this product.
Respiratory or skin sensitization	:	There is no data available for this product.
Carcinogenicity	:	There is no data available for this product.
Reproductive effects	:	There is no data available for this product.
Germ cell mutagenicity	:	There is no data available for this product.

Teratogenicity	:	There is no data available for this product.
STOT - single exposure	:	There is no data available for this product.
STOT - repeated exposure	:	There is no data available for this product.
Aspiration toxicity	:	There is no data available for this product.

Components

Acute oral toxicity	:	Hydrogen peroxide LD50 rat: 486 mg/kg

Potential Health Effects

Eyes	:	Causes serious eye damage.
Skin	:	Causes skin irritation.
Ingestion	:	Harmful if swallowed.
Inhalation	:	May cause respiratory tract irritation. May cause nose, throat, and lung irritation.
Chronic Exposure	:	Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact	:	Redness, Pain, Corrosion
Skin contact	:	Redness, Irritation
Ingestion	:	No information available.
Inhalation	:	Respiratory irritation, Cough

Section: 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Environmental Effects	:	Harmful to aquatic life with long lasting effects.

Product

Toxicity to fish	:	no data available
Toxicity to daphnia and other aquatic invertebrates	:	no data available
Toxicity to algae	:	no data available

Components

Toxicity to fish	:	Hydrogen peroxide96 h LC50 Pimephales promelas (fathead minnow): 16.4 mg/l

Components

Toxicity to algae	:	Hydrogen peroxide72 h EC50 Skeletonema costatum (marine diatom): 1.38 mg/l

12.2 Persistence and degradability

Product

no data available

Components

Biodegradability : Hydrogen peroxideResult: Not applicable - inorganic

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

Product

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

no data available

Section: 13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with the European Directives on waste and hazardous waste.Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

13.1 Waste treatment methods

Product : Do not contaminate storm water drains, natural waterways or soil with chemical or used container. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of contents/container in accordance with local regulations. Dispose of wastes in an approved waste disposal facility.

Contaminated packaging : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers. Dispose of in accordance with local, state, and federal regulations.

Guidance for Waste Code selection : Inorganic wastes containing dangerous substances. If this product is used in any further processes, the final user must redefine and assign the most appropriate European Waste Catalogue Code. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable European (EU Directive 2008/98/EC) and local regulations.

Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (ADR/ADN/RID)

14.1 UN number	:	2014
14.2 UN proper shipping name	:	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
14.3 Transport hazard class(es)	:	5.1 (8)
14.4 Packing group	:	II
14.5 Environmental hazards	:	No
14.6 Special precautions for user	:	None

Air transport (IATA)

Not permitted for transport

Sea transport (IMDG/IMO)

14.1 UN number	:	2014
14.2 UN proper shipping name	:	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
14.3 Transport hazard class(es)	:	5.1 (8)
14.4 Packing group	:	II
14.5 Environmental hazards	:	No
14.6 Special precautions for user	:	None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	:	Not applicable.

Section: 15. REGULATORY INFORMATION

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

according to Detergents Regulation EC 648/2004	:	30 % and more: Oxygen-based bleaching agents Contains: Disinfectants

Control of Explosives Precursors and Poisons Regulations 2023

This product is regulated (containing reportable or/and regulated substances) by the Control of Explosives Precursors and Poison Regulations 2023: all suspicious transactions, significant disappearances and thefts should be reported to the relevant national contact point.

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	:	OXIDIZING LIQUIDS AND SOLIDS P8 Lower tier : 50 t Upper tier : 200 t
Candidate List of Substances of Very High Concern for Authorisation	:	Not applicable.

National Regulations

Take note of Dir 94/33/EC on the protection of young people at work.

Other regulations : The Chemicals (Hazard Information and Packaging for Supply) Regulations.
The Control of Substances Hazardous to Health Regulations.
Health and Safety at Work Act.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out on the product.

Section: 16. OTHER INFORMATION

Procedure used to derive the classification according to REGULATION (EC) No 1272/2008

Classification	Justification
Oxidizing liquids 2, H272	Based on product data or assessment
Acute toxicity 4, H302	Calculation method
Skin irritation 2, H315	Calculation method
Serious eye damage 1, H318	Calculation method
Specific target organ toxicity - single exposure 3, H335	Calculation method
Chronic aquatic toxicity 3, H412	Calculation method

Full text of H-Statements

H271	May cause fire or explosion; strong oxidiser.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC)

No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Prepared by : Regulatory Affairs

Numbers quoted in the MSDS are given in the format: 1,000,000 = 1 million and 1,000 = 1 thousand. 0.1 = 1 tenth and 0.001 = 1 thousandth

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

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.