

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : BIOQUELL HPV-AQ
 BIOQUELL HPV-AQ

Other means of identification : Not applicable.

Recommended use : Surface Disinfectant

Restrictions on use : Reserved for industrial and professional use.

Product dilution information : Product is sold ready to use.

Company : Ecolab Ltd.
 52 Royce Close, West Portway
 SP10 3TS Andover, United Kingdom
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Bioquell.consumables@ecolab.com

Distributor: Woojung Bio
 593-8 Dongtangiheung-ro
 Hwaseong-si, Gyeonggi-do, South Korea
 031-280-5200

Emergency telephone number : +080-880-0455. Use Access Code: 333809

Issuing date : 07.06.2022

2. HAZARDS IDENTIFICATION
GHS Classification

Acute toxicity (Oral) : Category 4
 Acute toxicity (Inhalation) : Category 4
 Skin corrosion/irritation : Category 2
 Serious eye damage/eye irritation : Category 1
 Specific target organ toxicity - single exposure : Category 3 (Respiratory tract irritation)

GHS Label element

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H302 + H332 Harmful if swallowed or if inhaled.
 H315 Causes skin irritation.
 H318 Causes serious eye damage.
 H335 May cause respiratory irritation.

Precautionary Statements : **Prevention:**

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P261 Avoid breathing mist, spray.
P264 Wash the contact area thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P304 + P340 IF INHALED: Remove person to fresh air and keep 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.
P310 Immediately call a POISON CENTER or doctor/ physician.
P312 Call a POISON CENTER or doctor/ physician if you feel unwell.
P321 Specific treatment: consult MSDS Section 4.
P330 Rinse mouth.
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

Storage:

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

Disposal:

P501 Dispose of contents and container according to wastes control act.

Other hazards : None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	Common name	CAS-No.	Concentration: (%)
Hydrogen peroxide	no data available	7722-84-1	30 - 40

All unlisted components do not contribute to the overall hazard of the product and are trade secret, making up 100% of the full composition.

4. 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. Use a mild soap if available. Get medical attention if irritation develops and persists.

If swallowed : Rinse mouth. Get medical attention if symptoms occur.

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

Protection of first-aiders : If potential for exposure exists refer to Section 8 for specific personal

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protective equipment.

Notes to physician : Treat symptomatically.

Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water

Unsuitable extinguishing media : Carbon dioxide (CO₂)
Foam
Dry chemical

Specific hazards during firefighting : Not flammable or combustible.

Hazardous combustion products : Decomposition products may include the following materials:
Oxygen

Special protective equipment for firefighters : Use personal protective equipment.

Specific extinguishing methods : 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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : 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. Refer to protective measures listed in sections 7 and 8. Eliminate any possible source of ignition.

Environmental precautions : Do not allow contact with soil, surface or ground water.

Methods and materials for containment and 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. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

7. HANDLING AND STORAGE

Advice on safe handling : Do not ingest. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Use only with adequate ventilation. Wash hands thoroughly after handling. Do not get in eyes, on skin, or on clothing. In case of mechanical malfunction, or if in contact with unknown dilution of product, wear full Personal Protective Equipment (PPE).

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Conditions for safe storage : Keep in the original container only, in a cool and well-ventilated place, out of the light and away from combustible materials and reducing agents (amines), acids, bases, heavy metal compounds (accelerators, siccative agents, metallic salts). Do not store on wooden pallets. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.

Storage temperature : 5 °C to 25 °C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Hydrogen peroxide	7722-84-1	TWA	1 ppm	KR OEL

Biological occupational exposure limits : no data available

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

Personal protective equipment

Eye protection : Safety goggles
Face-shield

Hand protection : Wear the following personal protective equipment:
Standard glove type.
Nitrile rubber
butyl-rubber
Unsupported neoprene
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection : No special protective equipment required.

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Multi-purpose combination filter

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : clear, colourless

Odour : odourless

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pH	: 1.5 - 3.5, (100 %)
Flash point	: Not applicable.
Odour Threshold	: no data available
Melting point/freezing point	: no data available
Initial boiling point and boiling range	: > 100 °C
Evaporation rate	: no data available
Flammability (solid, gas)	: Not applicable.
Upper explosion limit	: no data available
Lower explosion limit	: no data available
Vapour pressure	: no data available
Relative vapour density	: no data available
Relative density	: 1.1 - 1.2
Water solubility	: soluble
Solubility in other solvents	: no data available
Partition coefficient: n-octanol/water	: log Pow: -1.57Method: Calculated
Auto-ignition temperature	: no data available
Thermal decomposition	: no data available
Viscosity, kinematic	: 0.980 mm ² /s (40 °C)
Explosive properties	: no data available
Oxidizing properties	: no data available
Molecular weight	: no data available
VOC	: no data available

10. STABILITY AND REACTIVITY

Reactivity	: Heating may cause an explosion.
Chemical stability	: Contamination may result in dangerous pressure increases - closed containers may rupture.
Possibility of hazardous reactions	: No dangerous reaction known under conditions of normal use.
Conditions to avoid	: Freezing temperatures. Heat. Exposure to sunlight.
Incompatible materials	: Bases Strong acids Reducing agents Strong oxidizing agents Organic materials Combustible material Metals

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Hazardous decomposition products : In case of fire hazardous decomposition products may be produced such as:
Oxygen

11. TOXICOLOGICAL INFORMATION

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

Potential Health Effects

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

Experience with human exposure

Eye contact : Redness, Pain, Corrosion
Skin contact : Redness, Pain, Irritation
Ingestion : Vomiting
Inhalation : Respiratory irritation, Cough

Toxicity

Product

Acute oral toxicity : Acute toxicity estimate : 1,389 mg/kg
Acute inhalation toxicity : 4 h Acute toxicity estimate : > 10 mg/l
Test atmosphere: vapour
Acute dermal toxicity : no data available
Skin corrosion/irritation : no data available
Serious eye damage/eye irritation : no data available
Respiratory or skin sensitization : no data available
Carcinogenicity : no data available
Reproductive effects : no data available
Germ cell mutagenicity : no data available
Teratogenicity : no data available
STOT - single exposure : no data available
STOT - repeated exposure : no data available

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Aspiration toxicity : no data available

12. ECOLOGICAL INFORMATION

Toxicity

Environmental Effects : This product has no known ecotoxicological 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 peroxide
96 h LC50 Pimephales promelas (fathead minnow): 16.4 mg/l

Components

Toxicity to daphnia and other aquatic invertebrates : Hydrogen peroxide
48 h LC50 Daphnia magna (Water flea): 2.4 mg/l

Components

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

Persistence and degradability

Not applicable - inorganic

Bioaccumulative potential

no data available

Mobility in soil

no data available

Other adverse effects

Ozone layer hazard: not applicable

13. DISPOSAL CONSIDERATIONS

Disposal methods : 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.

Disposal considerations : 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.

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.

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Land transport (KR_DG)

UN number : 2014
Description of the goods : HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Class : 5.1 (8)
Packing group : II
Environmentally hazardous : No

Sea transport (IMDG/IMO)

UN number : 2014
Proper shipping name : HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Class : 5.1 (8)
Packing group : II
Marine pollutant : No

Special precautions for user : None

Self-Accelerating decomposition temperature (SADT) : 60 °C

15. REGULATORY INFORMATION

National regulatory information

Industrial Safety and Health Act

Harmful Substances Prohibited from Manufacturing

Not applicable.

Korea. Harmful Substances Requiring Permission

Not applicable.

Substances to be controlled (Article 442 of the Regulation on Industrial Health Standards)

Chemical Name	CAS-No.	Threshold limits:
Hydrogen peroxide	7722-84-1	$\geq 1\%$

Special Management Materials

Not applicable.

Controlled Substances Subject to Environment Monitoring

Chemical Name	CAS-No.	Threshold limits:
Hydrogen peroxide	7722-84-1	$\geq 1\%$

Controlled Substances Subject to Health Examination

Not applicable.

Substances with Workplace Exposure Limits

Hydrogen peroxide

Chemicals Subject to Permissible Exposure Limit

Not applicable.

Chemicals Control Act

Toxic chemicals

Chemical Name	CAS-No.	NIER No.	Threshold limits:
Hydrogen peroxide	7722-84-1	97-1-2	$\geq 6\%$

Authorized chemicals

Not applicable.

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Restricted Toxic Chemicals

Not applicable.

Banned Toxic Chemicals

Not applicable.

Toxic Release Inventory Chemicals

Chemical Name	CAS-No.	Group	Threshold limits:
Hydrogen peroxide	7722-84-1	Group II	>= 1 %

Accident Precaution Chemicals

Chemical Name	CAS-No.	Threshold limits:	Designated quantity for manufacture or use	Designated quantity for storage (kg)
Hydrogen peroxide	7722-84-1	>= 35 %	<= 90,000 kg	<= 30,000 kg

Dangerous Substances Safety Management Act:

Not Applicable to Dangerous Materials

Waste Management Law

Industrial waste

The components of this product are reported in the following inventories:

United States TSCA Inventory :

All substances listed as active on the TSCA inventory

Canadian Domestic Substances List (DSL) :

All components of this product are on the Canadian DSL.

Australia. Australian Industrial Chemicals Introduction Scheme (AICIS) :

On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand :

not determined

Japan. ENCS - Existing and New Chemical Substances Inventory :

On the inventory, or in compliance with the inventory

Korea. Korean Existing Chemicals Inventory (KECI) :

On the inventory, or in compliance with the inventory

Philippines Inventory of Chemicals and Chemical Substances (PICCS) :

On the inventory, or in compliance with the inventory

China Inventory of Existing Chemical Substances :

On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory :

On the inventory, or in compliance with the inventory

16. OTHER INFORMATION

Sources of key data used to compile the Safety Data Sheet

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

IARC: (International Agency for Research on Cancer)

US. National Toxicology Program (NTP) Report on Carcinogens

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ECHA List of Publishable Substances Registered
EU HPVCs (High Production Volume Chemicals)

Issuing date : 07.06.2022
Date of first issue : 07.06.2022
Version : 1.0
Prepared by : Regulatory Affairs

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.