

Bioquell® Hydrogen Peroxide Vapour Bio-decontamination

Products & services range



ECOLAB®

GLOBAL EXPERTS IN
CONTAMINATION CONTROL

About Ecolab

A trusted partner for millions of customers, Ecolab is a global sustainability leader offering water, hygiene and infection prevention solutions and services that protect people and the resources vital to life. Building on a century of innovation, we deliver comprehensive science-based solutions, data-driven insights and world-class service to advance food safety, help maintain clean and safe environments, optimise water and energy use, and improve operational efficiencies for customers in more than 170 countries around the world.

Our assurance

Ecolab is committed to providing exceptional service, total plant solutions and unsurpassed industry expertise to help you achieve your business goals.

Our breadth of resources and integrated business model ensure consistency across your operations.

A unique range of advanced hydrogen peroxide vapour bio-decontamination equipment and solutions



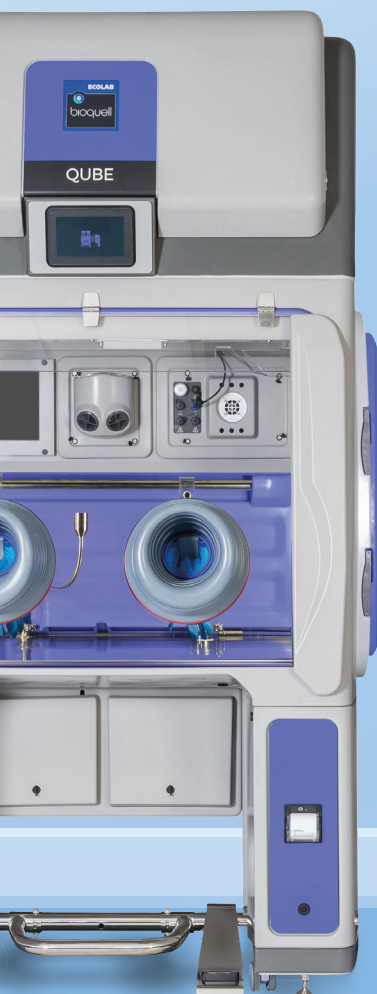
Bio-decontamination products & services

*BIOQUELL HPV-AQ 35% HYDROGEN PEROXIDE HOLDS A EUROPEAN UNION AUTHORISATION UNDER THE BIOCIDAL PRODUCTS REGULATION (BPR, REGULATION (EU) 528/2012)

Bioquell® Hydrogen Peroxide Vapour

Bioquell's proprietary technology uses a 35% hydrogen peroxide aqueous solution to kill microorganisms. Whether for bio-decontaminating equipment or rooms, a single cycle using Bioquell Hydrogen Peroxide Vapour provides a 6-log bioburden reduction on exposed surfaces.

All Ecolab Bioquell systems operate with a BPR approval* and you can run them at ambient room temperature and relative humidity, without the need to attain significantly reduced humidity that can be associated with other hydrogen peroxide bio-decontamination systems.



- ▼ Isolators with integrated bio-decontamination
- ▼ Mobile room bio-decontamination options
- ▼ Fixed bio-decontamination systems
- ▼ Integrated solutions for pass-through chambers and process equipment
- ▼ Rapid Bio Decontamination Service (RBDS)

Isolator with integrated bio-decontamination



Bioquell® Qube



GMP



ANNEX 1
COMPLIANT
BPR APPROVED



MODULAR



6-LOG
SPORICIDAL
KILL

The ideal isolator with integrated bio-decontamination

- ▼ Light, flexible, modular aseptic isolator in convenient configurations
- ▼ ISO 5 / Grade A working environment with rapid air clean up and integrated hydrogen peroxide vapour 6-log sporicidal kill bio-decontamination
- ▼ Optional 21 CFR Part 11 audit trail compliance package available
- ▼ Validated bio-decontamination cycles using Bioquell Hydrogen Peroxide Vapour

The Bioquell Qube has built-in hydrogen peroxide vapour bio-decontamination technology making it an ideal solution for aseptic processing. With multiple configurations available and a range of options and accessories, the Bioquell Qube is suitable for applications such as:

- ▼ Cell and Gene Therapy
- ▼ Sterility testing
- ▼ Cytotoxics preparation
- ▼ Small batch production (clinical trials, R&D, etc.)





Room | Zone bio-decontamination

Bioquell® ProteQ



GMP



<400 m³



BMS



6-LOG
SPORICIDAL
KILL

Mobile bio-decontamination system for rooms and zones

- Advanced distribution and aeration capabilities with wireless communication provides faster setup and cycle times
- Optional 21 CFR Part 11 audit trail compliance package
- Hosts all components within its frame, including additional optional aeration units
- Control a network of three systems with one optional master control panel



Bioquell® BQ-50



<200 m³



6-LOG
SPORICIDAL
KILL

A portable bio-decontamination system for hospital-wide use

- Mobile, simple to operate, rapid bio-decontamination cycles with intelligent parametric control
- Offers cost-effective bio-decontamination of rooms and laboratories in non-regulated areas
- Bioquell BQ-50 suite includes separate high capacity aeration units

Enclosure | Zone bio-decontamination

Bioquell® L-4



GMP



<350 m³



BMS



6-LOG
SPORICIDAL
KILL

**Bio-decontamination for enclosures,
equipment and more**

- ▼ Multipurpose mobile generator offers flexibility of use
- ▼ Suitable for isolators, enclosures, pass-through chambers, freeze dryers, incubators and rooms
- ▼ Easy 'no touch' bottle loading
- ▼ Optional 21 CFR Part 11 audit trail compliance package



Bioquell® IG-2



GMP



<75 m³



BMS



6-LOG
SPORICIDAL
KILL

**Seamlessly engineered and integrated option for
hydrogen peroxide vapour bio-decontamination**

- ▼ Designed to be built into process equipment and isolators for a seamless user experience
- ▼ Quickly bio-decontaminate equipment such as lyophiliser, filling lines, isolators, incubators, and more
- ▼ Rapid bioburden reduction for pass-throughs and airlocks
- ▼ Custom and challenging integration applications with the coordination and guidance of Bioquell engineers

Pass-through & airlock bio-decontamination

Bioquell® SeQure



GMP



<150 m³



BMS



6-LOG
SPORICIDAL
KILL



A dedicated, wall-mounted bio-decontamination system

- Fixed hydrogen peroxide vapour generator for chambers or rooms
- Fast to install and validate (<1 week)

- Validated bio-decontamination cycles with optional additional aeration if needed
- Bottle module with peroxide traceability and wastage minimisation through the two-bottle module system
- Optional 21 CFR Part 11 audit trail compliance package available

Bioquell® Hydrogen Peroxide (HPV-AQ)



- BPR approved: Bioquell HPV-AQ 35% hydrogen peroxide approval written into European law - Biocidal Products Regulation (BPR, Regulation (EU) 528/2012)
- High quality, high purity aqueous hydrogen peroxide solution designed for use with Bioquell technology
- Bottles are tracked through the use of RFID tags, providing traceability of the batch number on cycle reports

Hydrogen peroxide biological indicators (BI), chemical indicators (CI) & CI data scanner

Bioquell® Biological Indicators

- Consistent, reliable and independently tested
- 6-log *Geobacillus stearothermophilus* biological indicators
- Developed to validate hydrogen peroxide vapour technology



Bioquell® Chemical Indicators

- Two specially formulated options for rooms and for isolators / small enclosures that help quickly indicate a cycle has achieved an expected 6-log sporicidal kill



Bioquell® Chemical Indicator (CI) Data Scanner

- An easy to use tool which provides a quantifiable result from a Bioquell CI used in a bio-decontamination cycle which stores results electronically for improved record keeping and reporting



Bioquell® Rapid Bio Decontamination Service

Bioquell® RBDS



GMP



SCALABLE



BMS



6-LOG
SPORICIDAL
KILL



A fully managed Rapid Bio Decontamination Service

- ▶ Planned, proactive or rapid emergency deployment based on client operations
- ▶ Dedicated response options to host Bioquell equipment onsite in critical areas for rapid emergency deployment
- ▶ Single room/lab to whole facility bio-decontamination to fit client requirements
- ▶ Bio-decontamination of Biological Safety Cabinets (BSCs), incubators, robotic enclosures and other similar laboratory based equipment
- ▶ 6-log sporicidal kill on exposed surfaces
- ▶ Fully managed process, from site survey through to final bio-decontamination report, with no capital equipment expenditure required

Applications:

- ▶ Bioprocessing, biomanufacturing and production zones
- ▶ Biosafety labs of all levels
- ▶ Cleanrooms and research labs
- ▶ Post-construction new-area commissioning
- ▶ Shutdown, end of campaign and facility restart periods
- ▶ Emergency response
- ▶ Dedicated response plans
- ▶ Equipment bio-decontamination needs (BSC, lyophiliser and more)



Other services

Ecolab services

Installation & commissioning

To get the most from your Bioquell Hydrogen Peroxide Vapour bio-decontamination equipment, it must be correctly installed and configured. Depending on your application, this may not be a straightforward process, and our highly trained engineers are able to take you from a new, boxed unit to a fully functional and compliant set-up, ready for you to use, regardless of the complexity of your system.

Maintenance & calibration

Bioquell's experienced field service engineers can check, change and calibrate your bio-decontamination equipment, ensuring it remains in excellent condition. Whether it is breakdown cover for business / process critical systems or annual service and maintenance plans, the Ecolab team is able to tailor a service to suit you.



Validating Bioquell equipment



GMP

- Professional validation of Ecolab's Bioquell Hydrogen Peroxide Vapour process within client environment including provision of regulatory compliant paperwork
- Installation and Operational Qualification (IQ/OQ), Gas Cycle Development (GCD) and Performance Qualification (PQ) to ensure equipment is operational within required timelines
- Rapid and efficient hydrogen peroxide vapour cycle development to fit client process to provide a robust bio-decontamination cycle which achieves a 6-log sporicidal kill in the shortest amount of time
- We provide you with documentation to satisfy your regulatory requirements, from airflow checks and particle counts to full bio-decontamination cycle development



Material compatibility testing

Ecolab offers a testing service to determine the compatibility of materials and components with Ecolab's Bioquell bio-decontamination systems. We also offer a hydrogen peroxide ingress testing service for clients who are concerned about hydrogen peroxide permeating into sensitive materials such as bags, vials, and syringes being loaded into isolators and material airlocks.

Training & support

To ensure longevity and efficient operation of your system, it is essential to start with a solid knowledge base. Using a combination of practical exercises, face-to-face training and a comprehensive e-learning system, we are able to 'transfer knowledge' through the medium which suits you. And once the training has been completed, our technical support team will continue to help you with any questions.

Automated bio-decontamination using Bioquell Hydrogen Peroxide Vapour technology



Create efficiencies in
your process



Repeatable, validated
results



Offers regulatory compliance
and audit readiness

For expert implementation of automated bio-decontamination measures in your facility contact your **Ecolab Account Manager** or visit www.bioquell.com

For regional office details, please visit bioquell.com

USE BIOQUELL PRODUCTS SAFELY. ALWAYS READ THE LABEL AND PRODUCT INFORMATION BEFORE USE.

ECOLAB LTD

52 Royce Ct
Andover
SP10 3TS, UK
www.bioquell.com

EUROPE HEADQUARTERS

Ecolab Europe GmbH
Hofwiesenstrasse 349
CH-8050 Zürich, Switzerland
www.ecolab.com/lifesciences

