



### Ultralox 40®

HOCl, active form of chlorine as a biocide

Potable and process water

Article 95 compliant

DWI approved

Used widely in the NHS

### Suitable for...

Hot / cold systems

System purges

Hospitals

Hotels

Care homes

Schools

Small offices

Legionella control

Domestic systems

Drinking water

Breweries

Dairies

Food processing

CIP systems

Leisure centres

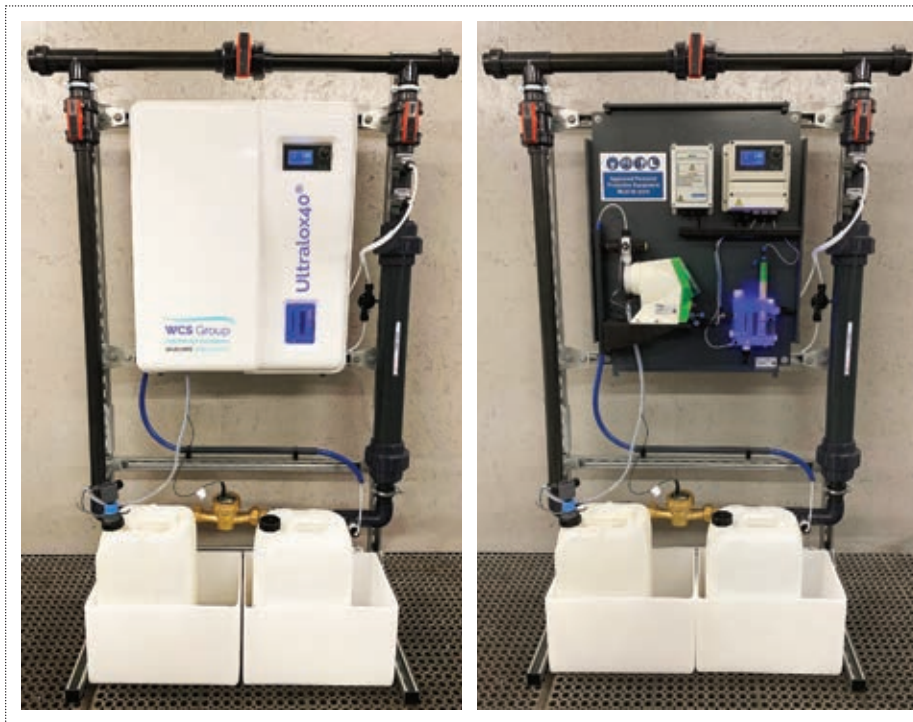
Poultry houses

And more ...



# Ultralox40®

Approved hypochlorous acid, the active form of chlorine that works as a biocide



### Low concentration, highly effective colourless biocide

Ultralox40® is an extremely efficacious fast-acting stable biocide (hypochlorous acid or HOCl). HOCl is manufactured naturally by white blood cells (neutrophils) as part of the body's defence against pathogens. HSG 274 cites "hypochlorous acid (HOCl) the form of chlorine that is most effective as a biocide". It breaks down biofilm and is highly effective against pathogens and bacteria. Particularly for systems with low and high pressure, high bacteria counts, embedded or systematic biofilm challenges, require repeated flushing and one-off disinfections and therefore have requirements for secondary disinfection.

### Small and medium applications

Delivered in 25L, 200L or 1,000L package sizes. Can be dosed into incoming mains or a break tank, via fixed or mobile delivery and control systems that can be purchased or hired. The standard mobile or free-standing skid mounted systems can be retrofitted and are suitable for systems up to 40m<sup>3</sup>/day. 200L systems are better suited for 50-60m<sup>3</sup>/day requirements.

Constituents are BS EN approved (BS EN 900:2007 and BS EN 974:2003)

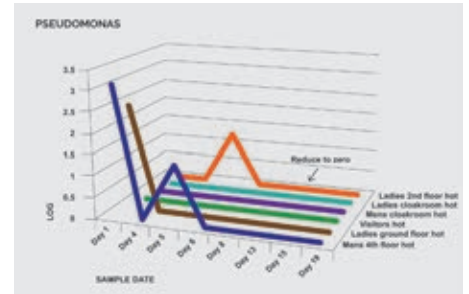
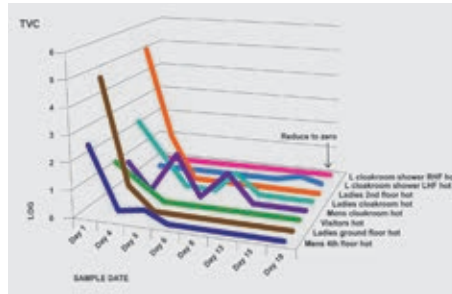
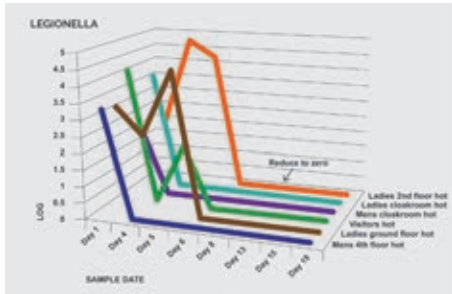
Appearance: colourless

Sg (at 20° Celsius): 1

Intended dose rate: 0.2ppm-1.5ppm (higher for shock-dosing)

Drinking Water Inspectorate Approval (DWI 56.4.1074) under Regulation 31 (4)A of the Water Supply (Water Quality) Regulations 2000 SI NO 3184 and The Water Supply (Water Quality) Regulations 2010 SI No 994 (W.99).

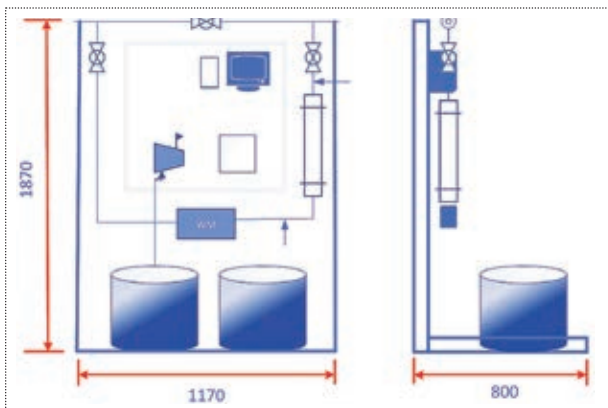
## Shock-dosed for 24 hours before maintenance 0.5ppm-1ppm in a food and beverage manufacturing site with stubborn bacteria counts



## Disinfection comparison

Feature / Application	Ultralox 40	Super Heating and Flushing	Traditional Chlorination System	Chlorine Dioxide	Copper-Silver Ionisation System	Ultraviolet
Used on domestic cold-water systems	✓	X	✓	✓	✓	✓
Used on domestic hot-water systems	✓	✓	✓	✓	✓	✓
Low hazard	✓	X	X	X	✓	✓
Compatible with equipment and systems	✓	✓	X	✓	Stains white porcelain	✓
Breaks down biofilm (at nominal operating conditions)	✓	X	X	✓	Ppm dependent	X
Inhibits biofilm (at nominal operating conditions)	✓	X	✓	✓	Ppm dependent	X
Residual effectiveness against Legionella	✓	X	✓	✓	✓	X
Simple to monitor	✓	✓	✓	✓	X	✓
Simple dosing equipment	✓	N/A	✓	Sometimes	X	✓
Single package dosing	✓	N/A	✓	Sometimes	N/A	N/A

## Skid system control and dosing



The kit comprises 2 x 25L or 1 x 200L options including;

- Chlorine Analyser / Controller
- Backboard and Ancillary systems
- 2 x 25L drum bund
- Flow meter
- Dosing pump(s)
- Fused power supply
- Injection tubing and foot valve

## A Marlowe Critical Services company

WCS Group is the 'Water Treatment and Hygiene' division of the Marlowe Critical Services Group owned by parent Marlowe plc.

Marlowe plc provides one access point for specialist 'highest standards' across;

- 'Compliance & Facilities Software', 'Health and Safety Compliance', 'Retained HR, Employment Law & Health and Safety', 'Occupational Health Services', 'eLearning and Training Services', 'Fire Safety & Security Services', 'Water Treatment & Hygiene Services', 'Air and Ventilation Compliance', 'Asbestos Management Services'

All nine divisions can be accessed singularly or in combination.

The Group shares many common customers and collectively employs 2,200+ specialists, servicing around 30,000 customers.

**Compliance. Assured.**

## Further reading

**Protect your water**

### Water safety, disinfection and secondary disinfection

Contamination risk from incoming water and water distribution systems INSIDE your building

**Choosing an appropriate solution**

Adherence to the UK, Northern Ireland and Scotland Drinking Water Regulations  
Compliance with HSE/LEL  
Meeting WHO Guidelines for Drinking Water Quality  
Protecting patients, your workforce and building visitors

Water Safety | Disinfection/Secondary Disinfection Overview

**GENOX**

Produces low hazard, HOCl biocide NEUTHOX™ for primary and secondary disinfection.

**GENOX**

Safe alternative to ClO<sub>2</sub>, Low hazard HOCl biocide  
Cost effective – from 4 pence/m<sup>3</sup> of treated water  
ONS approved  
HSG224 – HOCl is the most effective form of Chlorine  
Used widely in the NHS

**Suitable for...**

- Hot / cold systems
- Primary disinfection
- Secondary disinfection
- Hospitals
- Hotels
- Care homes
- Schools
- Legionella control
- Drinking water
- Horticulture
- Breweries
- Dairies
- Food processing
- And more...

**Cost effective, safe and powerful biocide for large and small systems**

A specially developed GENOX Generator System uses electrolysis of brine to generate a biocide (NEUTHOX™) on demand. NEUTHOX™ is a powerful, proven disinfectant that controls bacteria and destroys Legionella and Pseudomonas and is effective even at 40-50°C. The active ingredient in NEUTHOX™ is hypochlorous acid (HOCl) which is produced naturally in the human body within white blood cells to fight infection.

HOCl is lethal to pathogens. It is low hazard, easy to handle and easy to dose. Generation is inexpensive and HOCl is stored securely in a drum. The unit mainly requires water, Genox salt and electricity.

A wide range of units are available and all are compact allowing for simple retro fitting to areas with small available space footprints. Horticultural units are also available.

**How it works**

HOCl enters bacteria, inactivates and addresses its results by a two-stage disinfection process. On breaching the bacterial cell wall, it reacts chemically with the cell's proteins, attacking the cell's DNA and causing the whole cell to die. The cell floccs with water and acidic fluid and dies. Once the bacteria has been destroyed, its co-dependent relationship with the biofilm is disrupted and the biofilm begins to break up, bringing legionella and Pseudomonas levels back or permanently under control to acceptable levels.

NEUTHOX™ is approved with food and has no impact on water pH.

Water Safety | Disinfection\_Genox Fact Sheet

**CHLORINE DIOXIDE GENERATORS**

Modern-day chlorine dioxide water treatment using ClO<sub>2</sub> offers distinct advantages.

**CHLORINE DIOXIDE GENERATORS (ClO<sub>2</sub>)**

Proven non-generation  
No storage of ClO<sub>2</sub>  
Safe - no chemicals are mixed  
Reliable ClO<sub>2</sub> generation  
No dangerous by-products  
Dilute, high-quality solution  
Dispenses 700mg/l low concentration solution without storage  
Self-monitoring / connecting

**Suitable for...**

- Biofilm eradication
- Legionella control
- Membrane systems
- Water distribution systems
- Cooling towers
- Hospitals
- Hotels
- Horticulture
- Breweries
- Dairies
- Food processing
- Universities
- Acid restriction sites
- And more...

**ClO<sub>2</sub> - an effective, low concentration water disinfectant**

ClO<sub>2</sub> is a non-oxidized chlorine dioxide solution that contains no chlorine, no ozone, has a high conversion rate (75%), produces low concentration levels, is highly pure (99.99%), generated in a controlled reaction that is extremely safe, with no storage of ClO<sub>2</sub> because it is generated ON DEMAND.

**Beneficial properties of ClO<sub>2</sub>**

- Effective over pH range of 3 - 10
- Doesn't produce THMs
- Reacts with odour-causing compounds
- Breaks down phenols
- Precipitates iron and manganese
- Can overcome organic loading
- Penetrates and destroys biofilm
- Disinfects and destroys bacteria
- Plastible and process water

**Conventional ClO<sub>2</sub> generation negatives**

- Hard to make and storage is a problem
- UV light, heat and time degrade it
- Chemical mixing generators create by-products, can be corrosive, produce low yield, require accurate dosing
- Electrochemical generators suffer poor conversion, require complex pre-treatment, are maintenance heavy, require accurate dosing

**Introducing new generation, proven ClO<sub>2</sub> chlorine dioxide generators**

Solves all of the problems and perceived limitations of conventional ClO<sub>2</sub> generation and come in a range of models to provide 5G5 to 60G42/day of ClO<sub>2</sub>.

Water Safety | Disinfection\_ClO<sub>2</sub>IX Fact Sheet

[www.wcs-group.co.uk](http://www.wcs-group.co.uk)

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For a full list of our accreditations please visit: [www.wcs-group.co.uk/accreditations-respository](http://www.wcs-group.co.uk/accreditations-respository)