

# EndoSan<sup>50</sup><sup>®</sup>

STABILISED HYDROGEN PEROXIDE

## METHOD STATEMENT WATER SYSTEM DISINFECTION ES-WS-MSV1



EndoSan is a unique solution of hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) that is stabilised using an organic stabiliser. The formulation makes EndoSan a powerful, highly effective, broad spectrum disinfectant that is both stable and safe. The only active component of EndoSan is hydrogen peroxide.

### APPLICATION

Disinfection of domestic water systems, including water storage tank, piping feeding and distributing cold and hot water within the premises. EndoSan50 kills Legionella bacteria, Pseudomonas Aeruginosa and other waterborne pathogens. It is highly effective in removing biofilm from the system when increased contact times are applied.

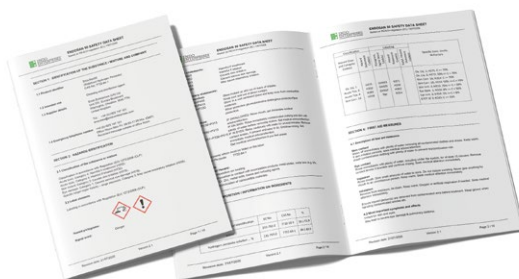
**⚡ WARNING: SHOCK DOSING POTABLE WATER SYSTEMS REQUIRES THE SYSTEM TO BE TAKEN OFF-LINE. PEROXIDE LEVELS ABOVE 720PPM ARE NOT SAFE FOR INGESTION NO USERS SHOULD DRAW WATER UNTIL THE RESIDENCY TIME HAS ELAPSED AND THE SYSTEM FLUSHED.**

**⚡ WARNING: ENDOSAN SHOULD NEVER BE USED IN DIALYSIS WATER FEED. A FULL RISK ASSESSMENT MUST BE COMPLETED TO ENSURE WATER SYSTEM DOES NOT SUPPLY DIALYSIS.**

**ℹ CONTACT OUR TECHNICAL SUPPORT TEAM FOR ASSISTANCE FOR ADVICE SUITABLE FOR YOUR OWN REQUIREMENTS T: +44(0) 1925 747 101 E: enquiries@endosan.com**

### PREPARATION

- Confirm with client the required disinfection protocol to be applied.
- Read the Safety Data Sheet (SDS) and ensure you have appropriate PPE/RPE available before handling EndoSan product.
- Establish system volume and water volume that is being disinfected.
- Make sure appropriate stock of EndoSan chemical and test strips are available.
- Inform people on site about the disinfection process being undertaken and that the water should not be used until it is safe to do so. Water system outlets must be secured, warning notices displayed that the water must not be ingested.
- Make sure the system can be vented.



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## PROCEDURE - FULL SYSTEM DISINFECTION

### METHOD 1

1. Feed tank drained and internals physically cleaned.
2. Feed tank internals sprayed with EndoSan3, at a 150ml/m<sup>2</sup> minimum spray coverage including roof and internal support bars. Leave in place for 60mins.
3. Tank refilled with water to pre-determined level, sufficient to pull dosed volume through complete water systems from tank.
4. During partial refill, pre-determined amount of EndoSan50 added to tank based upon identified contact time and dose for system disinfection (please see dosage chart on page 3).
5. Dosed water pulled through to every system outlet from tank (test strips used to prove levels); Note the initial dose level in ppm.
6. System left to disinfect for specified time. **NOTE:** Ensure systems have suitable venting to release generated oxygen build-up during disinfection/biofilm removal.
7. On completion of disinfection period, allow tank to refill with fresh water and then flush through at every outlet. Note residual dose level at start of flush. Flush each outlet until all signs of removed biofilm/contaminated water are clear and hydrogen peroxide level is at safe levels (max 700ppm).

### METHOD 2 -NO ACCESS TO SPRAY THE Cold Water Storage Tank (CWST)

1. Feed tank drained and internals physically cleaned.
2. Refill tank and add pre-determined volume of EndoSan50 to achieve dose level in line with protocol being applied.
3. Dosed water pulled through to every system outlet from tank (test strips used to prove levels); Note the initial dose level in ppm.
4. Top up the tank with water and add required volume of EndoSan50 to maintain identified dose level.
5. System left to disinfect for specified time. **NOTE:** Ensure systems have suitable venting to release generated oxygen build-up during disinfection/biofilm removal.
6. On completion of disinfection period, allow tank to refill with fresh water and then flush through at every outlet. Note residual dose level at start of flush. Flush each outlet until all signs of removed biofilm/contaminated water are clear and hydrogen peroxide level is at safe levels (max 700ppm).



### DOSAGE CHART

Dosage	Contact Time	Disinfection Type	EndoSan Required
500ppm	1 Hour	<b>Maintenance Shock Dose</b> Well maintained system Legionella control	<b>1 Litre</b> per 1,000 Litres
2,000ppm	1 Hour	<b>Maintenance Shock Dose</b> Well maintained system Control Legionella, Pseudomonas Aeruginosa, E. Coli, E. Hirae, Staphylococcus aureus	<b>4 Litres</b> per 1,000 Litres
2,000ppm	8 Hours	<b>Major System Disinfection</b> All pathogens controlled Effective Biofilm Removal	<b>4 Litres</b> per 1,000 Litres

\*Methods can be adapted to suit the system and client needs

#### NOTE:

**The system MUST be vented during the disinfection procedure.**

When in contact with organic matter hydrogen peroxide will decompose to water and oxygen causing significant oxygen build up in the system. Lack of venting can cause pipe burst and leakage. 1 Litre of EndoSan50 will produce 200L of oxygen when fully decomposed.

### PROCEDURE - WATER TANK DISINFECTION ONLY

#### METHOD 1- ACCESS FOR SPRAYING VIA HATCH

1. Feed tank drained and internals physically cleaned.
2. Feed tank internals sprayed with EndoSan3, at a 150ml/m<sup>2</sup> minimum spray coverage including roof and internal support bars. Leave in place for 60mins.
3. Depending on any visible contamination post disinfection tank should either be flushed and drained, or refilled and put in service, peroxide levels will be safe for ingestion.

#### METHOD 2- NO ACCESS TO THE TANK

1. Drain and clean the tank.
2. Refill tank to full whilst adding predetermined amount of EndoSan50.
3. Leave for specified contact time.
4. If peroxide levels are above 1,000ppm water should be partially diluted before being used (730ppm safe ingestion limit).



## SYSTEM MAINTENANCE - CONTINUOUS DOSE

### METHOD 1

1. Ensure suitable and accurate chemical dosing unit is in place.
  2. Adjust the settings to dose to 20ppm as peroxide.
  4. Open a number of outlets around the building to initiate flush through at the recommended dose rate.
- NOTE:** If premises have large capacity storage tanks it will be more efficient to pre-dose this volume manually with EndoSan50 (40ml per 1,000L of water).
5. Confirm by flushing that required dose is being achieved at all outlets, adjust dosing unit rates if required.
  6. Inform client that dose is in effect and if possible they should use test strips to monitor dose across outlets regularly and as per the risk assessment.
  7. Consistent hydrogen peroxide levels across the system indicate low biological load and the system being safe.

