EndoSan®

DISINFECTING DRINKING WATER SYSTEMS IN UNOCCUPIED BUILDINGS

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Due to the 2020 coronavirus (COVID-19) pandemic, many offices and buildings have been closed and will remain so for several weeks or months.

This means that it is highly likely that stagnant water will remain in water pipes and vessels. The stagnant water could be in the temperature range of 20-45°C which is the condition where micro-organisms flourish in the absence of regular flushing regimes and other measures as recommended in HSG 274 Part 2 "The control of Legionella in hot and cold water systems".

This document is a guideline to using EndoSan to reduce the risk of exposure to water containing legionella and other pathogens when water systems return to operation.

The following refers to buildings with incoming mains to header tanks which can be accessed to pour EndoSan50 into the tank(s).

SCENARIO 1

Instructed to sanitise water system on a Friday for occupancy on the following Monday

Assumed that a minimum dwell time in the system is 12 hours

1. Isolate the incoming water into the header tank(s) by valve or by tying up the ball-cock.
2. Drain all of the water in the tank(s) through hot and cold outlets.
3. Physically clean the header tank(s) , dry the surfaces and spray EndoSan3 over all of the surfaces and leave in place for 60 minutes. This will kill all pathogen on the surfaces of the tank(s).
4. Refill the tank(s) and isolate again.
5. Dose the tank(s) (during refill to achieve mixing) with EndoSan50 to achieve a concentration of 2,500 ppm as hydrogen peroxide. This requires 5 litres of EndoSan50 per 1,000 litres of water.
6. Pull this shock dosed water through all hot and cold outlets , including toilets. Use test strips to ensure that this water reaches all outlets. As soon as the test strip shows peroxide presence, isolate each outlet.
7. **Note - EndoSan will react with sessile biofilm and planktonic bacteria to produce oxygen and water. The oxygen must be allowed to be released or the system will pressurise. Ensure that pipework vents back to the head tank and that there are no non-return valves upstream of outlets. In this case, one of the outlets downstream of a NRV should be cracked open and left to drip or trickle.**
8. Leave in place for 12 hours (preferably 24 hours). This will destroy biofilm throughout the system.
9. After this shock dose, drain the whole system until the water returns to normal (less than 20 ppm peroxide).

SCENARIO 2

The building is unoccupied and it is foreseen that it will not be reoccupied for several weeks. Access for flushing on a regular basis is permitted (Sentinel points flushed twice per week; all outlets flushed once per week).

1. If required drain the tank(s) and clean as described in Scenario 1. If the tanks are clean, just apply the EndoSan dosage to a concentration of 200 ppm. This requires 400 ml of EndoSan50 per 1,000 litres of water. Allow to dwell in the full tank(s) for the remainder of the unoccupied period. The tank(s) can be topped up to this level after the flush.
2. Flush this through the system and use test strips to ensure that EndoSan is present and detected at each outlet.
3. Leave in place.
4. It is advisable, after one week, to test some outlets to see what residual EndoSan is in the system. If this is below 100 ppm, it is advisable to flush the system again at 200 ppm.
5. Make note of any discoloured water. Brown tinges indicate that biofilm has been destroyed.
6. Repeat the process each time flushing is carried out. The system should be retained at a level between 30 and 100 ppm.

SCENARIO 3

The building is unoccupied and it is foreseen that it will not be reoccupied for several weeks. Access for flushing is NOT permitted.

1. If required drain the tank(s) and clean as described in Scenario 1. If the tanks are clean, just apply the EndoSan dosage to a concentration of 500 ppm. This requires 1 litre of EndoSan50 per 1,000 litres of water.
2. Flush this through the system and use test strips to ensure that the EndoSan is present at each outlet.
3. Leave in place.
4. Flush the system with fresh water on the morning of the day when the building is reoccupied or, preferably, the day before. The water is likely to be discoloured with biofilm.

It is advisable to constantly dose the water to 20 ppm with EndoSan50 at a rate of 40 ml per 1,000 litres of water to reduce the risk of biofilm being re-formed in the water system. Automatic dosing systems can be acquired from Endo Enterprises UK Ltd.

Test strips are available in tubs of 100. Low range indicate from 0 – 100 ppm as peroxide, mid- range indicate from 0 – 1,000 ppm and high range indicate from 0-5,000 ppm.

Note requirement to conduct thorough risk assessment if dialysis or laboratories could be exposed to dosed water. Do not dose to dialysis water feed.