SAFESOL.
THE CLEVER LITTLE CHEMICALS COMPANY

HELPSHEET

Huwa-San TR50
High Level Disinfection of Commercial Mains Water Systems

What: Huwa-San TR50

Where: Commercial Water Systems. By 'commercial', we mean water tanks between 200L and 10000L in volume. So, places such as large Nursing and Care Homes, water treatment companies and councils.

When: This is for a high level disinfection using 1000ppm peroxide. It should be done when the disinfectant can get at least 1 hours contact time with the pipework. However the longer contact time the Huwa-San gets with the pipework the more effective it will be.

Why: Huwa-San TR50 disinfects water systems and kills legionella bacteria. Mains pipework should be disinfected when newly installed, where there has been work carried out on the mains supply, if there has been a problem with taste or odour, where microbiological results have an upward trend- i.e they are getting worse.

How:
Step 1) You first of all need to know how much water you're disinfecting. To find the volume of mains pipework this will be 3.14 x radius x radius x length.

Step 2)

Water system volume	Amount of Huwa-San TR50 needed	Bottles of Huwa-San TR50 needed
200 litres	400 ml-0.4 litres	1
500 litres	1000 ml-1 litre	1
1000 litres	2000 ml-2 litre	1
5000 litres	10000 ml-10 litres	1
10000 litres	20000 ml-20litres	2

Step 3) Dose the system with the appropriate amount of Huwa-San to give 1000ppm. The system should be taken out of use whilst this work is undertaken. Dilution of the chemical to a 1% solution can help when dosing the mains system as it can improve accuracy. This would be 1 part chemical to 50 parts water. Often customers use a small tank to pump the chemical in.

Step 4) Open cold taps **furthest** from the stop valve and let the water run for one minute.

Step 5) Check the water from these taps with an Huwa-San TR50 test strip. You're looking for hydrogen peroxide levels of more than 1000ppm, so use the colour guide on the test strips to help you.

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Step 6) If the test strip shows hydrogen peroxide levels of more than 1000ppm, great – you can now draw the Huwa-San TR50 through the entire system by opening up cold taps, checking that each has a hydrogen peroxide level of more than 1000ppm. Flush all of the WC's too if mains fed. If the test strip shows hydrogen peroxide levels of less than 1000ppm, you need to add more Huwa-San TR50 to the water tank and repeat. A lower hydrogen peroxide level, indicates a dirtier water system.

When adding more Huwa-San TR50, the general rule is this; if the test strip shows hydrogen peroxide levels of:

System Volume	Peroxide 25ppm (further peroxide addition in ml)	Peroxide 50ppm (further peroxide addition in ml)	Peroxide 75ppm (further peroxide addition in ml)
200	300	200	100
500	750	500	250
1000	1500	1000	500
5000	7500	5000	2500
10,000	15000	10000	5000

Step 7) After checking all outlets are showing 1000ppm or more, the furthest outlet should be rechecked. After at least 1 hour contact time then the level should be reduced to 100ppm peroxide.

NOTE: In the first 12 hours after disinfection, you may notice discoloured water or pieces of biofilm coming through taps. This will subside.
This level of hydrogen peroxide will get rid of resistant biofilm quickly and effectively, but the water system is **not** safe to be used. Once 1000ppm is achieved at all outlets, leave it for one hour; then run water through the system until the levels are back down to 100ppm at all outlets. As this is a mains disinfection the levels will drop quickly

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Huwa-San TR50 Health and Safety

SAFESOL advocates the use of appropriate safety equipment when using any chemical.
Please refer to the MSDS sheet prior to use.

In hospitals, never do an Huwa-San TR50 disinfection if there's a dialysis unit or laboratory linked to the water system or if there's the possibility of Huwa-San TR50 getting into the water supply to these units.

Before using any chemical, you should always reference your in-house Risk Assessments and Method Statements.