

## Huwa-San TR-3

Mains water disinfection



**What: Huwa-San TR-3**

**Where:** Mains Water Systems.

**When:** The water has to be off-line for at least 1-2 hours so choose a time that is suitable with the building owner.

**Why:** Huwa-San TR-3 disinfects water systems and kills legionella bacteria. Main's water systems should be disinfected if there's newly installed pipework, refurbishment work carried out on the system, if there are positive legionella samples taken from the system or if the system has been associated with a legionella outbreak. Mains water disinfection should be carried out at 1000ppm peroxide with a holding time of at least one hour.

**How: Step 1)** Calculate to volume of the system as accurately as possible. This can be done by working out the meterage of pipes and their diameter.

Pipework Diameter (M)	Length of Pipework (M)	Volume of Water (M3)
0.015	100	0.0056
0.015	200	0.01125
0.015	300	0.0168
0.022	100	0.0121
0.022	200	0.0242
0.022	300	0.0363

**Step 2)** Before disinfection, flush the mains pipework by opening several mains water outlets throughout the building. These can include taps, showers and toilets.

**Step 3)** Isolate the mains pipework, from the mains water supply, by closing the **stopcock**. There's normally a mains stopcock somewhere outside the building.

**Step 4)** Prepare a 1% solution of the Huwa-San TR-3. This can be done in a separate holding tank. This 1 part Huwa-San TR-3 to 2 parts water. The amount prepared depends on the system volume. The aim is to achieve 1000ppm peroxide in the system.

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### Mains Water Disinfection



Volume of Water System M3/litres	Volume of Huwasan TR3 to give 1000ppm peroxide	Volume of Water for dilution	Water removed from system
0.0056m3/ 5.6 litres	200ml	400ml	600ml
0.01125m3/11 litres	400ml	600ml	1000ml
0.0168/16.8 litres	600ml	1200ml	1800ml
0.0121/ 12.1 litres	450ml	900ml	1350ml
0.0242/ 24.2 litres	900ml	1800ml	2700ml
0.0363/ 36.3 litres	1350ml	2700ml	4050ml

**Step 5)** Introduce the Huwa-San TR-3 solution into the main water system by a) using a diaphragm pump; b) a pressure sprayer. Connect the pump or the pressure sprayer to the system at the draincock.

**Step 6)** Open the draincock and pump the Huwa-San TR-3 solution into the water system. Once complete, close the draincock.

**Step 7)** Open the stopcock to re-establish water pressure to the building.

**Step 8)** Open the cold tap **furthest** from the incoming mains and let the water run for one minute.

**Step 9)** Check the water from these taps with a peroxide test strip. You are looking for levels of more than 1000ppm, so use the colour guide on the test strips to help you.

**Step 10)** Leave the Huwa-San TR-3 in the system for 1 hour and then flush the system until all the peroxide is removed. The water should not be in use during the disinfection period and outlets should be labelled do not use during this time.

1000ppm peroxide is not suitable for drinking or washing so the system should be flushed to give 100ppm level of peroxide prior to returning to use.

### Huwa-San TR-3 Health and Safety

**Put simply**, independent testing has shown that Huwa-San TR-3 is safe to handle and to use.

**Put technically!** French laboratory, EVIC-CEBA, performed a toxicological evaluation on Huwa-San TR-3. It was tested in accordance with 67/548/EEC and concluded that it's not a skin irritant or a skin desensitiser; it's not dangerous by ingestion and it's not an eye irritant.

**In hospitals**, never do an Huwa-San TR3 disinfection if there's a dialysis unit or laboratory linked to the water system or if there's the possibility of Huwa-San TR3 getting into the water supply to these units.