

**Oxine®** is a multipurpose liquid disinfectant which is many times more powerful in eliminating microorganisms than common chlorine based materials or hydrogen peroxide.

The beauty of this product is that it is a very powerful oxidiser yet it leaves no harmful by-products behind.

When Oxine® (a patented stabilised Sodium Chlorite solution) is activated with citric acid it forms a stock solution liquid which emits Chlorine Dioxide gas (ClO<sub>2</sub>) – a very powerful Oxidising agent.

(Chlorine Dioxide (ClO<sub>2</sub>) derived from Oxine® is not to be confused in any way with swimming pool Chlorine, or industrial strength applications of low grade ClO<sub>2</sub> – they are totally different)

This ClO<sub>2</sub> stock solution is then added to the body of water requiring treatment. The ClO<sub>2</sub> immediately takes action and begins oxidising any harmful microorganisms it comes in contact with.

It is the Oxygen in the molecule ClO<sub>2</sub> that is so active. After the oxidation of microorganisms takes place the Chlorine (Cl) in the ClO<sub>2</sub> molecule finishes up being combined with Sodium (Na) to form a harmless degradation product – common salt (NaCl).

It is the powerful oxidation properties of the ClO<sub>2</sub> molecule and the harmless by-product it leaves behind (common salt) which makes Oxine® an excellent product for water treatment in hydroponics.

The common salt left behind as a by-product of the oxidation process is of low toxicity and can easily be monitored and removed from the system should they ever built up to unwanted levels. In hydroponic systems these levels are usually negligible provided there is not an elevated content of sodium already present in the water supply.

Oxine® overcomes the shortcomings of all other Chlorine based products which allow troublesome organochlorines to form when chlorine reacts with organic material.

The Oxine® product is unique in that the patented method of manufacture and stabilisation produces a product ideally suited for use in horticulture.

The Oxine® application rates for hydroponics are as follows:

**2ppm** – The standard dose rate for fully sanitising water supplies used for hydroponic systems or human consumption. Can be directly added as a calculated dose to a fresh water holding tank or dam. Targets *Pythium*, *Phytophthora* and similar water-borne pathogens.

**50ppm** – For flushing through drippers, drip tape and other pipework to sterilise them between crops or when disease problems occur. Great for removing biofilm from pipes, gullies and drip systems. (Plants must be disconnected from the gullies or drippers and pipework must be well flushed with fresh water before reconnecting to the crop). When used with a wetter/spreader the level of contact and effectiveness increases.

**50ppm** – For flushing through reusable media to sterilise it before it is used for the next crop e.g. coconut coir, pumice, scoria

**100ppm** – For disinfecting processing lines, greenhouse floors or harvesting equipment. As a soak bath additive to sterilise pots and propagation trays and other equipment. Will loosen stubborn organic matter and biofilm. No rinsing required after application. Can also be applied as a fine mist. Ensure surfaces are wet for at least 1 minute.

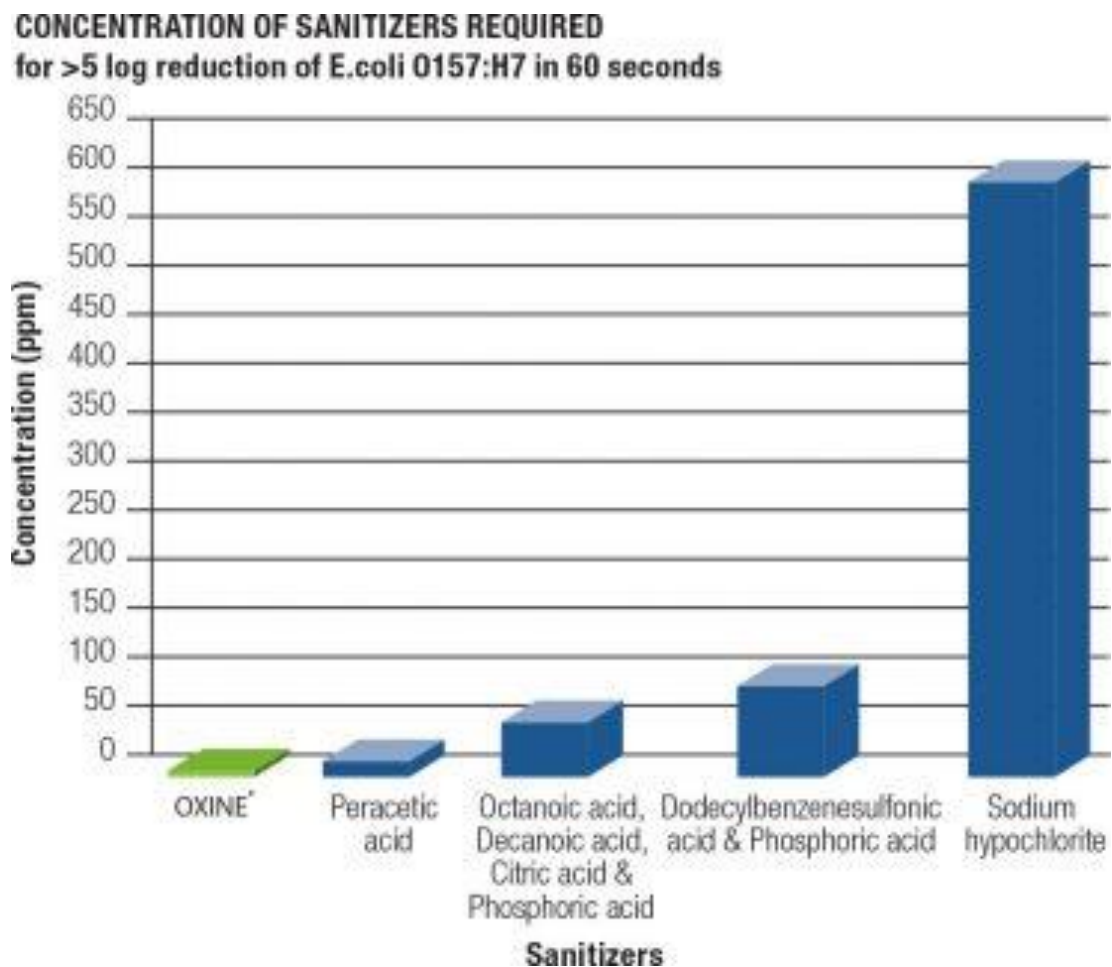
## Benefits

- Ultra high, broad-spectrum antimicrobial activity
- Uniquely effective against biofilm
- Effective over a broad pH range (1-10)
- Low corrosion potential at normal use concentrations
- Resists inactivation due to organic load
- Completely soluble in water
- Does not chlorinate (no THM formation)
- Long-lasting bacteriostatic activity
- Excellent deodorising effect
- No effect on organoleptic properties
- No effect on nutritional quality
- Economical to use
- Can be used with automated delivery systems
- Safe for applicators (PPE required)
- No unusual stipulations on storage

**Dose Rates for using Oxine® 2% grade are listed below.**

Oxine® must be activated for **10 minutes** when using **Citric Acid crystals**

Oxine® must be activated for **5 minutes** when using **50% Citric Acid liquid**



**Rates for activation of Oxine. Activate before dilution**

(CDO = Chlorine dioxide in total volume. Activate first)

<b>Soln CDO</b> <i>ppm</i>	<b>Final Water Volume</b> <i>Litres</i>	<b>Oxine 2%</b> <i>mls</i>	<b>Citric Acid Crystals</b> <i>Grams</i>	<b>Citric Acid 50% Solution</b> <i>mls</i>
2	10	1	0.1	0.2
	1000	100	10	20
5	10	2.5	0.25	0.5
	1000	250	25	50
10	10	5	0.5	1
	1000	500	50	100
20	10	10	1	2
	1000	1000	100	200
50	10	25	2.5	5
	1000	2500	250	500
100	10	50	5	10
	1000	5000	500	1000
200	10	100	10	20
	1000	10000	1000	2000