

Key Solutions Group

OXINE WT

Due to the ever growing concerns with the availability of water, many growers are moving more towards the use of drip and hydroponic irrigation systems and are using more recycled water. Hydroponic and other horticulture growers are using OXINE WT to disinfect media, water, nutrient solutions, irrigation lines, equipment and the environment. It performs much better than chlorine because it is better tolerated by plants and has a superior mode of action over a wider pH range. It is proven effective against biofilm and organisms of concern such as *Erwinia*, *Botrytis*, *Pythium*, *Fusarium*, and *Rhizoctonia* at dosages from 0.5 ppm to 2.0 ppm. OXINE WT does not react with organics to form chlorinated carcinogens like chlorine does so it is considered a more environmentally friendly product. It ultimately breaks down to simple table salt (NaCl).

Application rates for Oxine WT for the cultivation of cannabis are as follows:

2ppm – The standard dose rate for all types of media or root contact irrigation systems. Oxine WT fully sanitizing water supplies used for hydroponic systems or human consumption. Can be directly added to a tank or dam or injected inline via a proportional injector. Targets *Pythium*, *Phytophthora* and similar water borne pathogens.

2ppm – The standard dose rate for adding to nutrient solutions fed to crops. The 2ppm strength targets pathogens and other harmful microorganisms, controls algae and unblocks drippers while being soft on plant roots. The recirculated residual helps to keep NFT gullies clean and free of organic loading. It has been successfully used for cleaning up fungal infections on root systems.

2-5ppm - Maintain 2 to 5-ppm in humidifier and cooling-wall water reservoirs to prevent the growth and spread of mold spores and pathogens from these type systems.

5ppm – The standard dose rate for adding to nutrient solutions which are fed to plants in run to waste (non recirculating systems) when fungal problems are present in the media.

50ppm – For flushing through drippers, drip tape and other pipework to sterilize 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 sterilize it before it is used for the next crop e.g. coconut coir, pumice and scoria.

100ppm – For disinfecting processing lines, greenhouse floors or harvesting equipment. As a soak bath additive to sterilize grow pots and propagation trays and other equipment. Will loosen stubborn organic matter and biofilm. No rinsing required after application. Also can be sprayed directly on cooling wall pads to overcome algae, mold buildup.

100ppm – up to 500ppm – for disinfecting floors, side walls and ceilings of empty greenhouse. Use trigger sprayer, hand pump sprayer or powered portable misting system. If heavy concentrations of contaminants are present, spray and let stand to loosen debris. Remove debris with high pressure water hose or pressure washer, then reapply Oxine WT and let dry. Ensure surfaces are wet for at least 1 minute.

These suggested uses are based on the best, currently available information. The results of use of the product are the responsibility of the user.”

| ACTIVATED PPM CHART FOR 2% OXINE WT | | | Baseline .0064 per 1 ppm |
|-------------------------------------|---|---|--------------------------|
| | Ounces of 2% Oxine WT | Amount of citric acid (grams) used | |
| To achieve PPM | to make 1 gallon of activated solution | to make 1 gallon of activated solution | |
| 2 | 0.0128 | 0.04 | |
| 5 | 0.032 | 0.1 | |
| 10 | 0.064 | 0.2 | |
| 20 | 0.128 | 0.4 | |
| 30 | 0.192 | 0.6 | |
| 40 | 0.256 | 0.8 | |
| 50 | 0.32 | 1 | |
| 60 | 0.384 | 1.2 | |
| 80 | 0.512 | 1.6 | |
| 100 | 0.64 | 2 | |
| 150 | 0.96 | 3 | |
| 200 | 1.28 | 4 | |
| 300 | 1.92 | 6 | |
| 400 | 2.56 | 8 | |
| 500 | 3.2 | 10 | |
| 1000 | 6.4 | 20 | |

Activation is accomplished by using powdered or granular citric acid. In automated system liquid citric acid is used. To hand mix with liquid citric acid, please use the provided Excel PPM calculator.

Hand mixing instructions

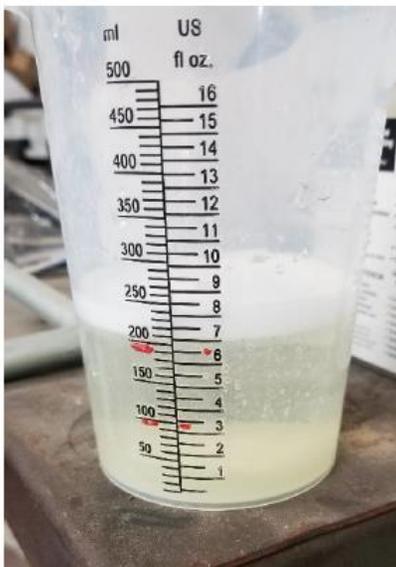
EXAMPLE: to mix a 200 ppm solution for surface disinfectant spray. (Always follow label safety instructions and use required PPE)

1. Measure out 1.28 ounces of Oxine WT into clean container. (Use above chart or provided Excel calculator)
2. Add 4 grams of powdered citric acid (CAA) or equivalent 50% liquid citric acid, to the measured container of Oxine WT
3. Allow to activate, (turn yellow / light brown), see below pictures.
4. Pour into 1 gallon clean water.
5. Apply via trigger spray bottle, hand pump sprayer or fogger.

EXAMPLE: to mix a 2 ppm solution to dose into a 500 gallon irrigation tank. (Always follow label safety instructions and use required PPE)

1. Drain, clean and refill irrigation tank with fresh clean water.
2. Measure out 6.4 ounces of Oxine WT into clean container. (Use above chart or provided Excel calculator)
3. Add 20 grams of powdered citric acid (CAA) or equivalent amount of 50% liquid citric acid, to the measured container of Oxine WT.
4. Allow to activate, (turn yellow / light brown), see below pictures.
5. Pour activated solution into irrigation tank.
6. Let circulate for a few minutes to ensure proper mixing.

Elapse time after mixing Citric Acid and Oxine WT



Oxine WT and 2 tsp. CAA



after 1 minute



after 2 minutes



After 3 minutes

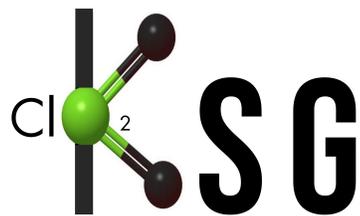


after 5 minutes

ALLOW 3-5 MINUTES AFTER MIXING BEFORE DUMPING INTO WATER TANK.

If you have any questions, please contact:

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