TWINOXIDE INFORMATION SHEET

- TABS -

ABOUT CHLORINE DIOXIDE

Chlorine dioxide (ClO_2) is used both as a disinfectant and as an oxidant in drinking water treatment and industrial applications, being first used in drinking water treatment in 1944. It is known to be a remarkably powerful disinfectant, even at very low concentrations. Chlorine dioxide can control virtually any type of microorganism found in water; such as bacteria, fungi, yeast, algae, spores, viruses, pathogens and protozoa. It is also one of very few biocides that are effective for control of biofilm attached to surfaces, such as the walls of water tanks and distribution pipework.

Unlike halogens, such as chlorine or bromine, chlorine dioxide does not form halogenated organic compounds which can result in the production of harmful compounds and carcinogens in the treated water. At higher concentrations, chlorine dioxide can also be used for the cleaning and disinfection of hard surfaces.

TWINOXIDE TABS

TwinOxide Tabs provide a simple and convenient method for the preparation of a 0.1% chlorine dioxide solution (1,000 ppm ClO_2), generated in water with TwinOxide Component A and Component B. A TwinOxide Tabs package contains 12 tablets* (6 Component A tablets and 6 Component B tablets), each tablet weighing 1 gram. The tablets are individually sealed in a foil strip, and should be kept sealed in the foil strip until required for use. The tablets should be stored in a secure, cool, dry place and kept away from children and animals. The expiry date is printed on the end flap of the TwinOxide Tabs package box and on the foil of the tablets (tablets should be used within 5 years of the date of manufacture).

In addition to the tablets, each TwinOxide Tabs package contains tweezers, scissors, and a 100 ml plastic 'dropper' bottle for the preparation and dispensing of the 0.1% TwinOxide chlorine dioxide solution. Dissolved in 100 ml of tap water, each set of TwinOxide Tabs (one tablet A and one tablet B) produce a 0.1% TwinOxide chlorine dioxide solution. At a water temperature of 20 to 25 °C (70 to 75 °F) the reaction time to completion is about 3 hours.

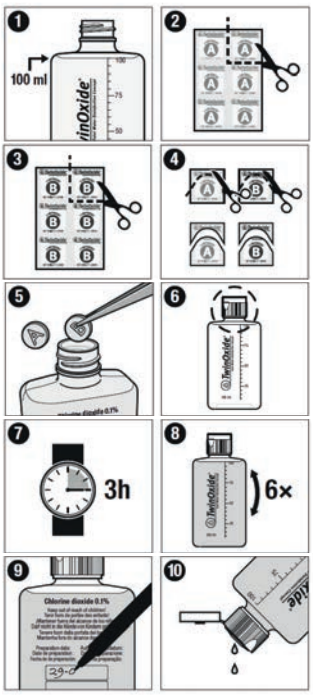
Content:
- 6 tablets Component A & 6 tablets Component B
- Mix bottle of 100 ml with flip top cap
- Tweezers and scissors
- User instructions

TwinOxide Components A and B, and the prepared TwinOxide chlorine dioxide solution are approved and registered according to the world's most stringent regulations, such as the European Chemical Agency (ECHA), NSF International to NSF/ANSI 50-60 Standards and NSF Category D2. EPA registered and approved for drinking water and agriculture and FDA and USDA approved. Also Kosher, Halal and Omri certified.

TwinOxide Tablet A contains sodium chlorite. TwinOxide Tablet B contains sodium bisulfate. Similar TwinOxide products, for producing larger quantities of TwinOxide chlorine dioxide solution, are available in powder form.

* Other package sizes on request.

PREPARATION OF TWINOXIDE 0.1% CHLORINE DIOXIDE SOLUTION



These instructions are specifically applicable for using TwinOxide Tabs to prepare a TwinOxide 0.1% chlorine dioxide solution.

1. Remove the 'dropper' cap from the plastic bottle provided and fi ll the bottle with 100 ml of clean tap water with a temperature of about 20 to 25 °C (70 to 75 °F). Place the bottle with water on a flat, level surface.
2. Use scissors to cut one TwinOxide Tabs tablet A from the protective foil strip.
3. Cut one TwinOxide Tabs tablet B from the protective foil strip.
4. Cut around the foil containing each tablet to facilitate removal of the tablets from the foil.
5. Use tweezers, plastic gloves or other appropriate equipment to separately remove the tablets from the protective foil and separately put each tablet into the bottle of water. Do not touch the tablets or the chlorine dioxide solution with bare fingers or bare hands!
6. Close the bottle by replacing the 'dropper' cap, ensuring that the cover of the cap is securely closed.
7. Leave the bottle to stand undisturbed for at least 3 hours at about 20 to 25°C (70 to 75°F), to allow the tablets to dissolve and the active ingredients completely react to produce a TwinOxide 0.1% chlorine dioxide solution.
8. Gently invert the bottle 6 times to mix the TwinOxide 0.1% chlorine dioxide solution.
9. Write the date of preparation of the solution on the back of the 'dropper' bottle.
10. Ready for use!

USE OF TWINOXIDE 0.1% CHLORINE DIOXIDE SOLUTION

First you have to determine the quantity of water to be treated. The amount of TwinOxide 0.1% chlorine dioxide solution to be added depends on the volume and quality of water to be treated. The table below gives guidelines for the approximate quantity of TwinOxide 0.1% chlorine dioxide solution to add. From these guidelines, proportionally calculate the amount of TwinOxide 0.1% chlorine dioxide solution that is required for the amount of water to be treated for the given application. One drop of TwinOxide 0.1% chlorine dioxide solution is equivalent to approximately 0.05 ml.

Using the 'dropper' bottle (or other appropriate equipment), add the correct amount of TwinOxide 0.1% chlorine dioxide solution to the water to be treated. Make sure the water and the added chlorine dioxide mix well. The treated water is disinfected and ready for use after a certain contact time. This contact time depends largely upon the types of microorganisms present in the water to be treated. Post-disinfected water (water already treated earlier) can be ready in 5 minutes; in case of heavily polluted water, the contact time should be at least 30 minutes.

Dosage rate of 0.1% TwinOxide Solution	Post-disinfection of potable water	Water with low contamination	Water disinfection to WHO standards	Standing water (in vessels)	Water from unreliable sources
	(target 0.05 ppm ClO_2)	(target 0.2 ppm ClO_2)	(target 0.4 ppm ClO_2)	(target 0.5 ppm ClO_2)	(target 1.0 ppm ClO_2)
Per liter	**0.05 ml** (1 drop)	**0.2 ml** (4 drops)	**0.4 ml** (8 drops)	**0.5 ml** (10 drops)	**1 ml** (20 drops)
Per gallon	**0.2 ml** (4 drops)	**0.75 ml** (15 drops)	**1.50 ml** (30 drops)	**2.00 ml** (40 drops)	**3.75 ml**

For cleaning hard, non-porous surfaces prepare **50 ml of 0.1% ClO2 solution to 1 liter of clean water** or **47 ml of 0.1% ClO2 solution to 1 quart of clean water** to obtain a 0.005% (50 ppm) ClO_2 solution.

TwinOxide International B.V.
De Tongelreep 17
NL-5684 PZ Best
The Netherlands
Phone: +31 (0) 499 32 92 42
E-mail: info@twinoxide.com
www.twinoxide.com

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