



The Gold Standard for Water Disinfection

GO₂™ for DRINKING WATER

What is GO₂?

GO₂ is the 21st Century replacement for environmentally harmful chlorine, which has been in use for over a century to disinfect drinking water. GO₂ is an advanced chemistry to generate chlorine dioxide (ClO₂) in solution with a purity of 95.0+%. Pure ClO₂ is ten times more powerful as an oxidizing biocide than chlorine and chlorine-type disinfectants. GO₂ creates zero disinfection byproducts, (DBP's), including carcinogenic chlorine, chloramines, chlorites and chlorides. Chlorine dioxide kills many water-borne micro organisms. These include bacteria, including coliform, salmonella, listeria, E-coli, cinobacteria, viruses, yeast, fungi, mold, algae, spores, protozoans, cryptosporidia, actinomycetes, cysts, giardia, legionnaire's disease, cholera, dengue, hepatitis and typhoid. Chlorine dioxide also kills airborne viruses when misted into air or used on contaminated surfaces via HVAC or spray system distribution, including anthrax, influenza, SARS, smallpox, chickenpox and avian flu. The range includes not only viruses which infect humans but viruses that kill poultry, fish and livestock. GO₂ also removes phenols, cyanides, iron, manganese and ethnogeny from water. GO₂ eliminates microbial slime from water distribution and storage systems, whether this contamination is in a simple village well, a farm drinking water or irrigation system, or in an entire city.

GO₂ is manufactured in powder form. Combination of two separate components in simple tap water produces a 95.0% pure ClO₂ solution at a concentration of 4,000 ppm. This concentrate is then simply dosed into the target water to produce safe, disinfected water. Minimal investment in equipment or infrastructure is required to use GO₂ just a simple dosing pump and a ClO₂ measuring device. The product is simple to use, transport and store. It has a shelf life of 5 years. One gallon of GO₂ will treat 4,000 gallons of water @ 1.0 PPM.

GO₂ is U.S. NSF-60 and U.S. EPA approved. FDA and USDA approval will be granted in Q1, 2010. The product meets the highest standards established by European Agencies governing the safety and hygiene of human drinking water.

The concentrate should be stored in a cool, dark place. It will stay potent at 4,000 ppm concentration for 15 days. Thereafter it will gradually decline in strength, retaining 50.0% potency up to 30 days. For all practical purposes, the ability to mix and use a batch of concentrate within 15 days is sufficient.



GO₂ comes in powder form. 20kg (44.0 lbs) of component A and 20kg of component B produces 1000 liters (264gal) of 4,000 PPM pure chlorine dioxide. Minimal equipment is required, only a mixing tank. GO₂ is a clean process; it is environmentally friendly and produces zero by-products.

GO₂ customers include a variety of industries where clean water is required. These include drinking water from village wells to entire cities, waste water treatment, food and beverage producers, bottled water companies, agriculture, livestock, poultry, dairy, fruit and produce washing, meat processing, the pulp and paper industry, the oil and gas industry, hotels, restaurants, hospitals, cruise ships and marine vessels, swimming pools, hot tubs and spas.

GO₂™ APPLICATION BRIEF



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GO₂TM APPLICATION
BRIEF

GO₂ Key Features

- ▶ Eliminates microbial slime and prevent its reformation in drinking water and process water systems
- ▶ Reduces equipment needs and maintenance costs
- ▶ Improves water quality
- ▶ 2 simple powders mixed in tap water produces pure ClO₂ at 95.0% efficiency of conversion
- ▶ Environmentally safe chemistry
- ▶ Used as a water disinfectant in many countries for industrial, agricultural, municipal and consumer applications
- ▶ Easy and effective to use, store and transport
- ▶ Competitive use cost when compared to traditional treatments

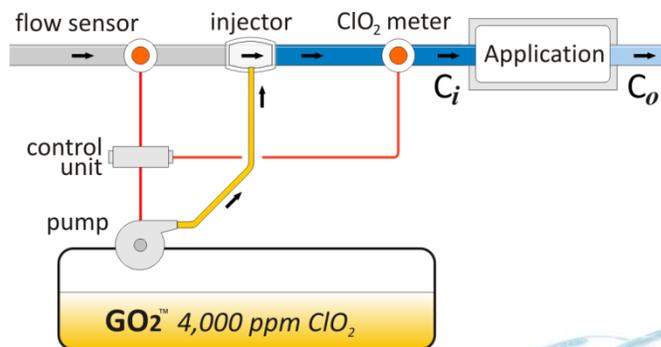
GO₂ Applications

- ▶ Drinking Water Treatment
- ▶ Water Hygiene and Remediation
- ▶ Water Chiller and Cooling Tower Treatment
- ▶ Environmental Control
- ▶ Walls, Floor, Ceiling, Equipment Exterior, Hand & Foot, Fogging, Etc.
- ▶ Poultry, Beef Cattle and Dairy Cattle Drinking Water
- ▶ Beef and Poultry Carcass Washing
- ▶ Post-harvest fruit, vegetable and Produce Washing
- ▶ Food Processing Facilities
- ▶ Shelf-Life Extension
- ▶ Air Conditioning Systems
- ▶ Humidification Remediation and on-going Treatment

GO₂ Unique Properties

Cleaning Properties

- ▶ Powerful inorganic Oxidizing Agent and free radical with residual cleaning ability
- ▶ Destroys algae-related taste and odor compounds
- ▶ Higher yield (up to 260% more oxidation output compared to chlorine)
- ▶ GO₂ does not chlorinate organic materials; so no Chloral-Phenols
- ▶ No Disinfection By Products (THM's, HAA's, MX and other carcinogenic compounds)
- ▶ Removes microbial slime for water distribution systems
- ▶ Steady bactericidal efficacy within a broad range of pH levels (pH 2 to pH 11)
- ▶ Effective against most water-borne micro-organisms and spore forming bacteria (Bacteria, Viruses, Protozoa, Fungi, Algae)
- ▶ No build-up of resistance in micro-organisms. Kills the cell RNA



To apply GO₂, the only equipment required is a storage tank, a flow sensor and injector. These costs are minimal and eliminate investment.



Improving the World of Disinfection

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GO₂™ APPLICATION BRIEF

Cost Properties

The elements below are eliminated* by the use of GO₂

- › Cost of a conventional ClO₂ Generator (cheapest approximately US \$10,000)
- › ClO₂ Generator maintenance and re-certification
- › Security Measures
- › Risk and Liability Insurance policy
- › Training, certification and re-certification of qualified personnel
- › Environmental, Health & Safety factors
- › HAZMAT for shipping Liquids
- › GO₂ in a "Shoe Box" equals the volume of four x 55 gallon drums of conventional disinfectant liquid
- › No additional chemicals are required (e.g. pH-level stabilizers)

GO₂ 4,000 ppm concentrate can treat the following amounts of water at 5 pre-set concentrations:

4,000 ppm kit for	1.0 ppm	0.5 ppm	0.3 ppm	0.2 ppm	0.1 ppm
264 Gal	1,058,201	2,116,402	3,527,337	5,291,005	10,582,011
1,000 Liters	4,000,000	8,000,000	13,333,333	20,000,000	40,000,000

Delivery Mechanism

- › 5 years guaranteed shelf life in two-component form
- › Easy to mix and use (standard industrial dosage equipment)
- › 100.0% solubility in water
- › Ready to use on site in 30 minutes
- › 30-60 day shelf-life in 4,000 ppm concentrate form 48 - 72 hour biocidal life when added to water
- › Produces 95.0% pure ClO₂
- › High yield rate, one gallon of GO₂ treats 40,000 gallons of water @ 0.10 PPM ClO₂

Chemical Properties

- › Does not react to water to form hypochlorous acid. No "free chlorine"
- › No harmful By Products. Environmentally friendly
- › Unlike chlorine, GO₂ does not react with ammonia, ammonium or other organic compounds
- › Trace amounts of un-reacted Chlorite, Chloride and Sulfate
- › High efficiency in the removal of Iron and Magnesium compounds
- › Reduces Sulfites to Sulfates

Operational Properties

- › No residues
- › Non corrosive to systems, pipes, pumps, filters, equipment
- › Single-product water cleaner and conditioner
- › Effective against airborne diseases when "misted"
- › Inexpensive
- › Safe to use, handle, ship and store
- › Improves performance of poultry and livestock



For municipal water, GO₂ concentrate is pumped from 1,000 liter tanks into the drinking water system. No dangerous generators or specially secured area's are necessary.

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