



Safrax[®] Chlorine Dioxide for Water Tanks & Water Storage



Water Tank Treatment



Treating water tanks with Safrax® chlorine dioxide is a highly effective solution to ensure clean, safe, and bacteria-free water.

- **A Healthy Water Tank is Just Tablets Away:** Over time, harmful organic materials such as biofilm, bacteria, fungi, and viruses start building up in water tanks. This organic material can negatively affect the odor and taste of water and can be harmful to your health.
- **The Most Easy to Use and Effective Product:** Safrax® chlorine dioxide is the easiest and most effective product on the market to maintain water tanks and to ensure that water is safe for use and consumption.

5 Key Benefits

of Using Safrax® Chlorine Dioxide
for Water Tank Treatment:

① Pathogen Elimination:

Safrax® chlorine dioxide ensures water safety by effectively eliminating a broad spectrum of pathogens, including bacteria, viruses, and fungi.

1 - Bacterial Eradication: Safrax® chlorine dioxide effectively eradicates harmful bacteria such as **E. coli** and **Salmonella**, preventing waterborne infections and diseases.

2 - Virus Neutralization: The solution acts decisively against viruses like **Norovirus** and **Rotavirus**, safeguarding against viral contamination in water sources. This includes the targeted elimination of specific viruses known for waterborne transmission.

3 - Fungal Control: Safrax® chlorine dioxide is designed to control fungal growth, addressing concerns related to **mold** and **mildew**. This is vital for preventing health issues associated with fungal contaminants, including *Aspergillus* and *Candida*.

4 - Algae Prevention: The formula actively prevents the formation of algae, including **black algae**, ensuring that water remains free from unsightly and potentially harmful algal blooms. This comprehensive approach adds an extra layer of protection against various algae species, contributing to water clarity and safety.

② No Residuals:

Unlike some traditional water treatment methods, Safrax® leaves **no harmful residuals**:

Example of Chlorine with Residuals and Creation of THMs:



When chlorine bleach is used as a water disinfectant, residuals are left in the treated water.

Chlorine reacts with organic matter, such as leaves, algae, or other natural substances in the water, forming **disinfection byproducts (DBPs)**, including **Trihalomethanes (THMs)**.

THMs are harmful to human health.

Issues with THMs:

1 - Health Concerns: Long-term exposure to THMs has been associated with adverse health effects, including an increased risk of cancer and reproductive problems.

2 - Environmental Impact: THMs also contribute to soil contamination.

Safrax® chlorine dioxide's unique no-residual feature is a key advantage in water treatment.

THMs pose health risks and can contribute to environmental contamination. In contrast, Safrax® chlorine dioxide eliminates this concern. Its application ensures that no harmful residues or byproducts are left in the treated water.

This not only addresses health concerns associated with water consumption but also mitigates environmental risks. By choosing Safrax® chlorine dioxide, you are actively contributing to the maintenance of water quality without introducing potentially harmful substances into the water or the broader ecosystem.

This commitment to both health and the environment makes Safrax® chlorine dioxide a responsible and effective choice for water treatment.

Nitrate and trihalomethanes, two of the most common drinking water contaminants

ISGlobal



Nitrate present in drinking water (tap or bottled) comes mostly from **agricultural fertilisers** and manure from **intensive livestock farming**.

Rainfall washes nitrate into **aquifers** and **rivers**.



Trihalomethanes (THMs) are chemical compounds formed after drinking **water is disinfected**, usually with **chlorine**.

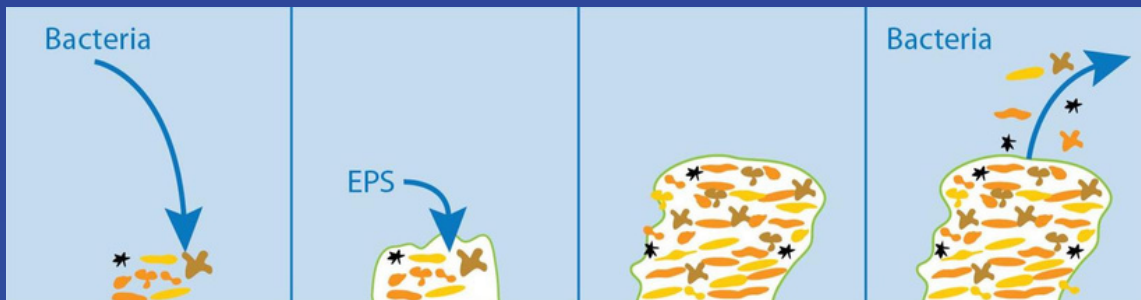
Long-term exposure to trihalomethanes has been associated with an increased risk of **bladder cancer**.



3 Prevents Biofilm Formation:

Regular use of Safrax® chlorine dioxide prevents the formation of biofilm in water tanks, thereby maintaining water quality.

Biofilm is a thin, slimy layer of microorganisms that adhere to surfaces and form a complex structure of extracellular polymeric substances (EPS).



Biofilms develop on the inner surfaces of the tank. They consist of **bacteria, fungi, algae, and other microorganisms** embedded in a matrix of organic material. The formation of biofilm contributes to water contamination, affecting water quality and creating a breeding ground for **harmful pathogens**.



Using Safrax® chlorine dioxide helps prevent the formation of biofilm, ensuring cleaner and safer water.

④ Safe and Eco-Friendly:

Safrax® chlorine dioxide is an environmentally friendly solution with **no adverse impact on the environment or aquatic life.**

Safrax Chlorine Dioxide offers significant benefits to groundwater, its effectiveness extends to **safeguarding groundwater sources from various contaminants**, including bacteria, viruses, fungi, and algae.

The unique oxidative properties of Chlorine Dioxide play a crucial role in neutralizing and eliminating these harmful microorganisms, ensuring the purity and safety of groundwater.

Unlike some conventional methods, Safrax Chlorine Dioxide addresses a broad spectrum of contaminants, making it a reliable and comprehensive solution for maintaining the quality of groundwater.

This contributes to creating a safer and healthier environment, **protecting both the groundwater itself and the ecosystems dependent on it.**



ECO-FRIENDLY

100%
Compatible with
Organic culture

5

Eliminates the Need for Tank Cleaning:

Unlike ClO₂, traditional chlorine treatments lead to:

- **Biofilm formation**
- **Algae growth**
- **Other contaminants**

Safrax® chlorine dioxide prevents the buildup of these unwanted elements.

With Safrax®, you can enjoy consistently clean and safe water without the hassle of tank cleaning, saving you time, effort, and maintenance costs.

Say goodbye to scrubbing and cleaning your tank regularly – Safrax® chlorine dioxide ensures long-lasting water tank hygiene.





How to Effectively Use Safrax® Chlorine Dioxide for Water Tanks and Storage:

1 - Determine the Right Dosage:

- Precisely calculate the required Safrax® chlorine dioxide dosage based on your water tank's volume and water source.
- Adhere to the recommended dosage guidelines provided by Safrax® for optimal results.

2 - Effortless Tablet Dissolution:

- Safrax® chlorine dioxide tablets are designed for easy and quick dissolution.
- Simply drop the necessary tablets directly into the water tank.

3 - Emergency Water Storage Maintenance:

- For emergency water storage, add **1 to 5 PPM** every 15 days, or every 7 days if the tank is exposed to sunlight.

4 - Daily Use Water Tank Protocol:

- For water tanks in daily use, we recommend utilizing an injector calibrated at **1 PPM** with a Safrax® chlorine dioxide mother solution.

Remember to regularly assess and adjust the dosage as needed, considering specific conditions and usage patterns. Always adhere to Safrax® guidelines to ensure optimal water safety and effectiveness.

Using Safrax® Chlorine Dioxide With an Injector: Optimizing Water Treatment Efficiency

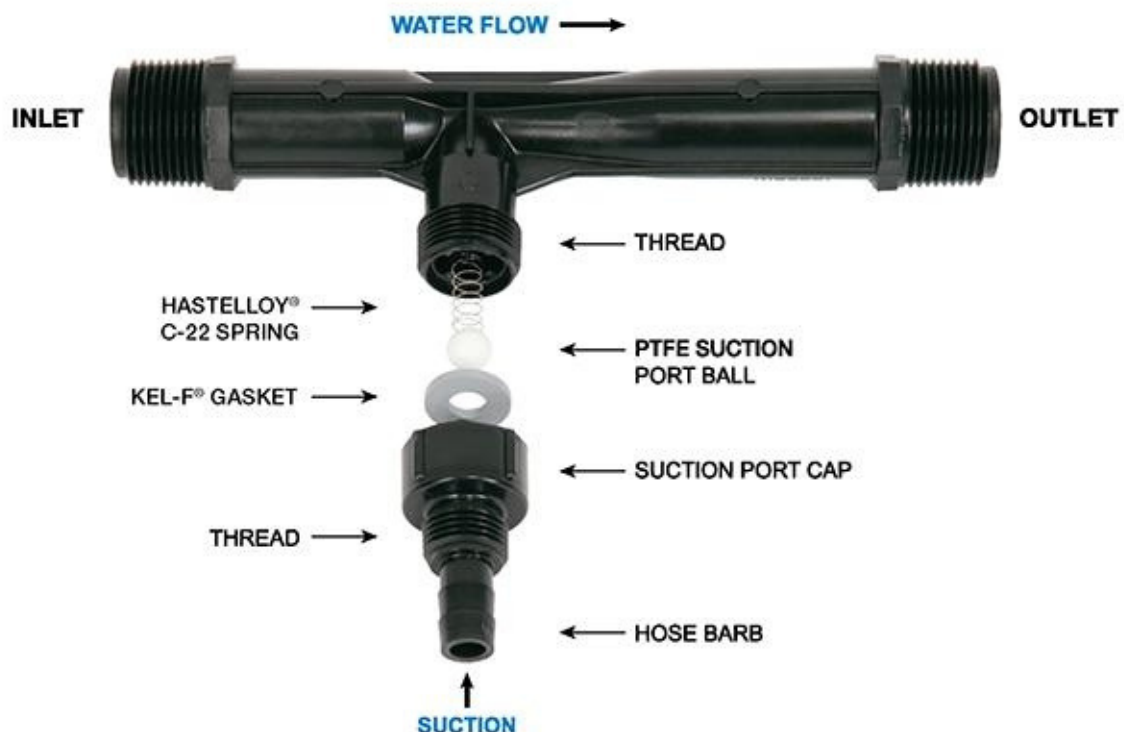
Using an injector is a highly effective and efficient method for administering Safrax® chlorine dioxide in water treatment.

Strategically placed at the outlet of the water tank, the injector allows precise control and distribution of the chlorine dioxide solution. This ensures that the treated water maintains the desired concentration levels, providing optimal disinfection and purification benefits.

The injector can be calibrated based on the desired gallons per hour (GPH), allowing users to tailor the treatment to meet specific water treatment needs.

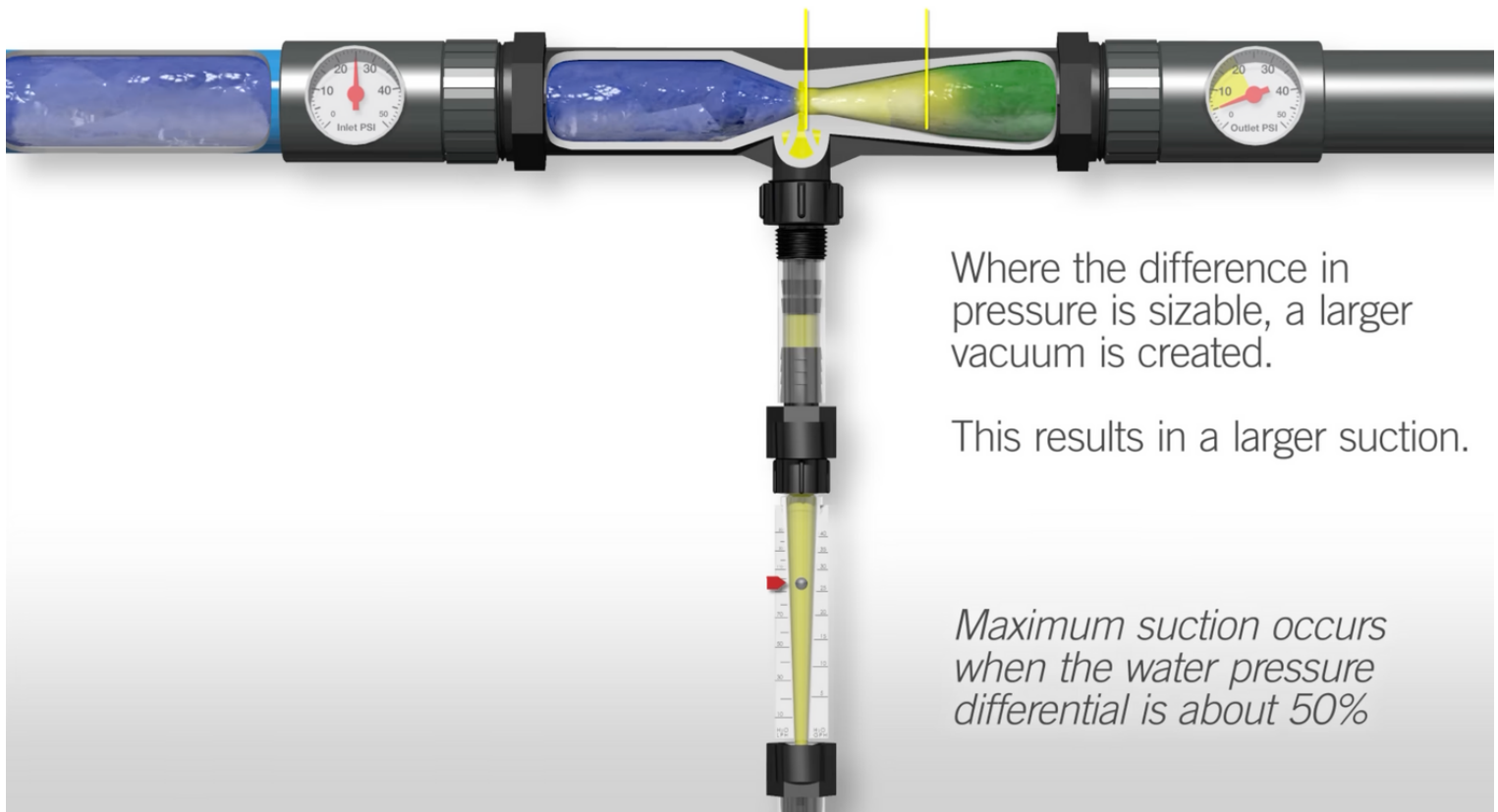
This method not only simplifies the application process but also maximizes the effectiveness of Safrax® chlorine dioxide, ensuring a consistent and reliable water treatment solution.

We supply this type of injector to our clients; it functions **without electricity** and comes at a **low cost**:



Using an Injector Offers Several Advantages in Water Treatment:

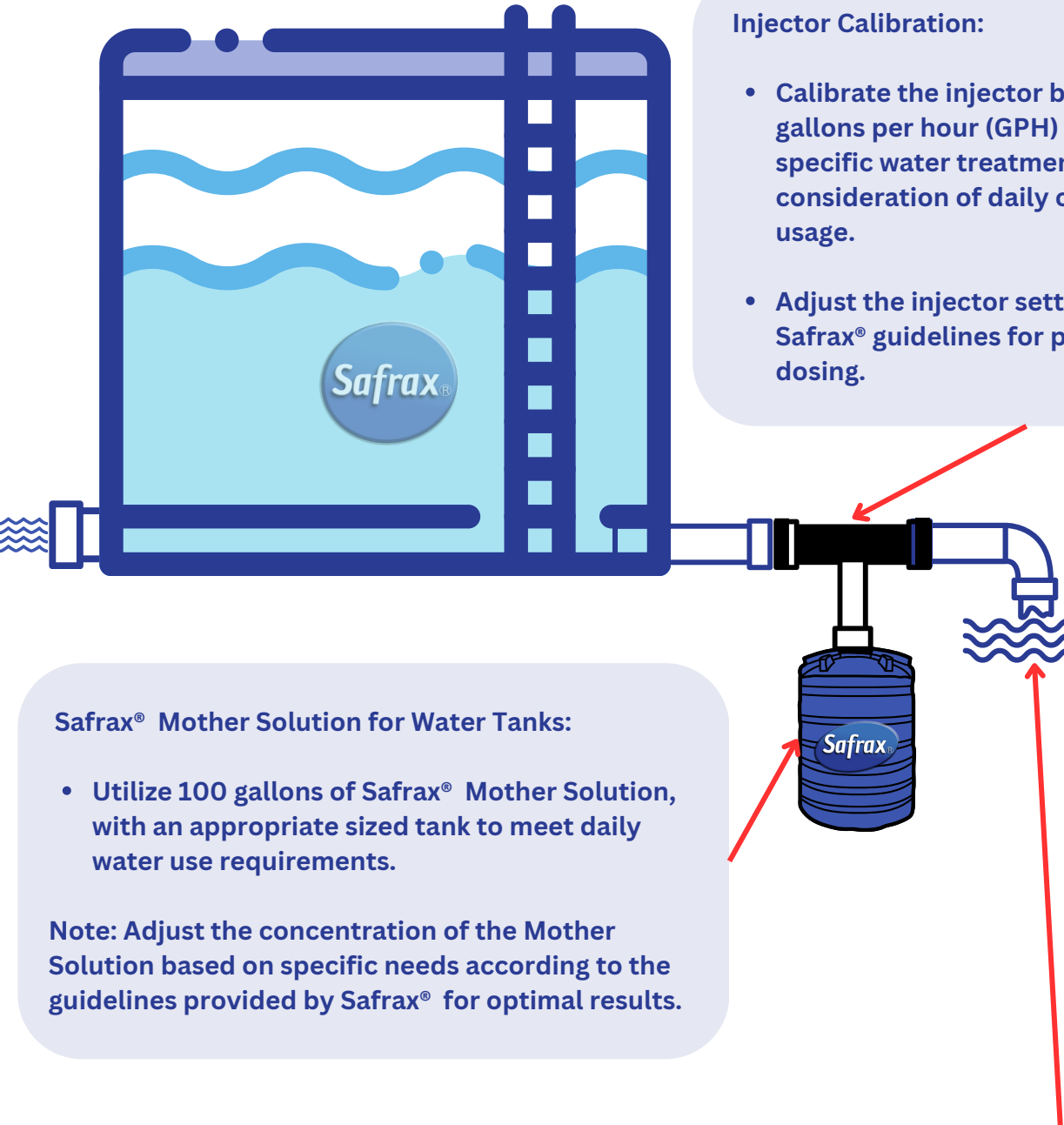
- **Precision and Control:** The injector allows for accurate dosing of Safrax® chlorine dioxide, ensuring precise water treatment at the desired concentration.
- **Consistent Application:** By placing the injector at the outlet of the water tank, the distribution of Safrax® chlorine dioxide is consistent, maintaining the desired concentration levels throughout the water supply.
- **Ease of Application:** The injector is designed for ease of use, facilitating the dissolution of Safrax® chlorine dioxide tablets directly into the water tank. This simplicity enhances the overall application process.
- **Reduced Maintenance:** The consistent and controlled application minimizes the need for frequent maintenance, providing a reliable and low-maintenance water treatment solution.



Where the difference in pressure is sizable, a larger vacuum is created.

This results in a larger suction.

Maximum suction occurs when the water pressure differential is about 50%



Injector Calibration:

- Calibrate the injector based on the desired gallons per hour (GPH) to meet your specific water treatment needs, with consideration of daily or weekly water usage.
- Adjust the injector settings according to Safrax® guidelines for precise and efficient dosing.

Safrax® Mother Solution for Water Tanks:

- Utilize 100 gallons of Safrax® Mother Solution, with an appropriate sized tank to meet daily water use requirements.

Note: Adjust the concentration of the Mother Solution based on specific needs according to the guidelines provided by Safrax® for optimal results.

Achieve Optimal Safrax® Chlorine Dioxide Concentration:

- Adjust the Safrax® chlorine dioxide dosage to achieve a final concentration of the treated water ranging from **0.5 to 5 parts per million (PPM)** or more, tailored to your specific water treatment requirements.

Case Study 1: Hotel with 200 Rooms

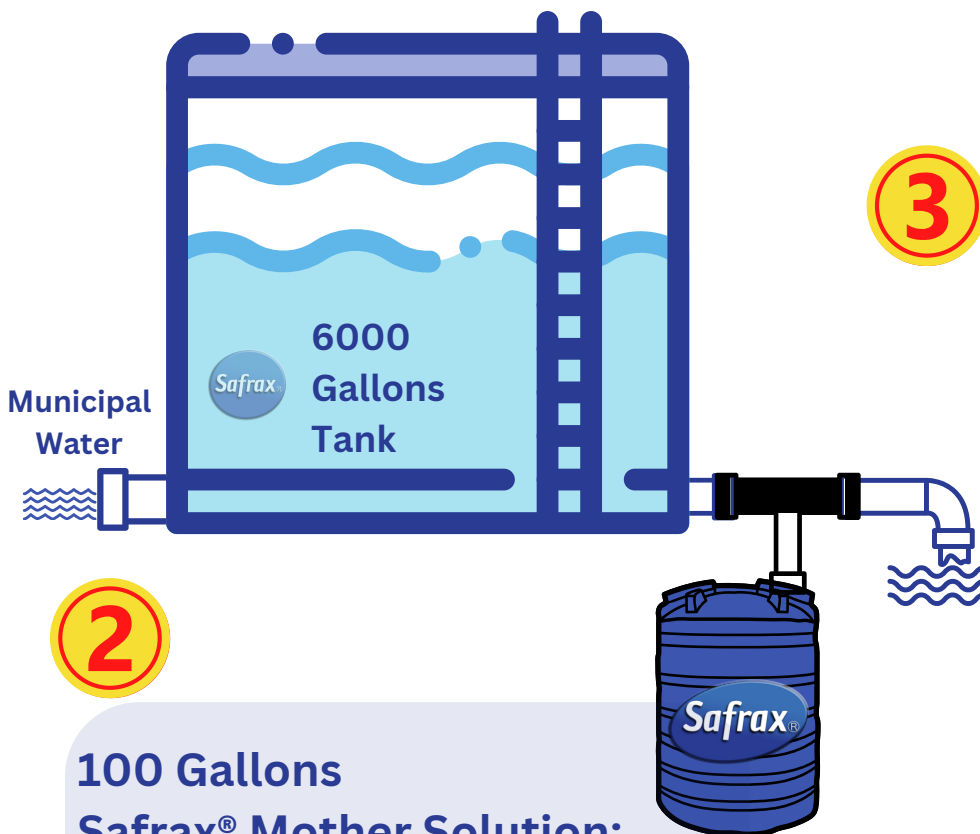
The objective was to achieve purified water for the hotel, with a chlorine dioxide concentration of **0.5 PPM** at the outlet. This aimed to:

- Enhance the guest experience
- **Eliminates all water bacteria**
- **Reduce skin diseases**
- Specifically address **women's intimate health concerns**, which have recently been linked to chlorine and bacteria in water

1

Tank Maintenance:

Add **1 PPM** (about 225 tablets) every **15 days**



2

100 Gallons
Safrax[®] Mother Solution:
1 bag (500 grams) = **130 PPM**,
replenish every **3 or 4 days**
with injector configured at **5**.

3

The level of chlorine dioxide at the outlet is **0.5 PPM**.

You can increase the PPM level by adjusting the concentration of the Safrax[®] solution or by increasing the injection rate of the configured injector.

Case Study 2: Chicken Barns

Twenty barns, each housing **5,000 chickens**, for a total of **100,000 chickens** per cycle, were the focus of this case study. The goal was to provide purified drinking water for the chickens, aiming for a chlorine dioxide concentration of **1 PPM** at the outlet.

This initiative aimed to:

- **Improve the overall health of the chickens**
- **Promote and accelerate weight gain**
- **Decrease the risk of diseases and viruses**
- **Enhance chicken vitality**
- **Reduce the need for antibiotics (Essential in the face of restrictions on antibiotic use)**
- **Lower the mortality rate**

Additional benefits of using Safrax® chlorine dioxide in animal drinking water include:

- **Enhanced feed conversion ratio (FCR)**
- **Improved feed efficiency**
- **Optimal growth and uniformity among chickens**
- **Reduction in waterborne pathogens**
- **Enhanced farm-to-plate production with Grade "A" birds**
- **Faster growth and reduced slaughter age**

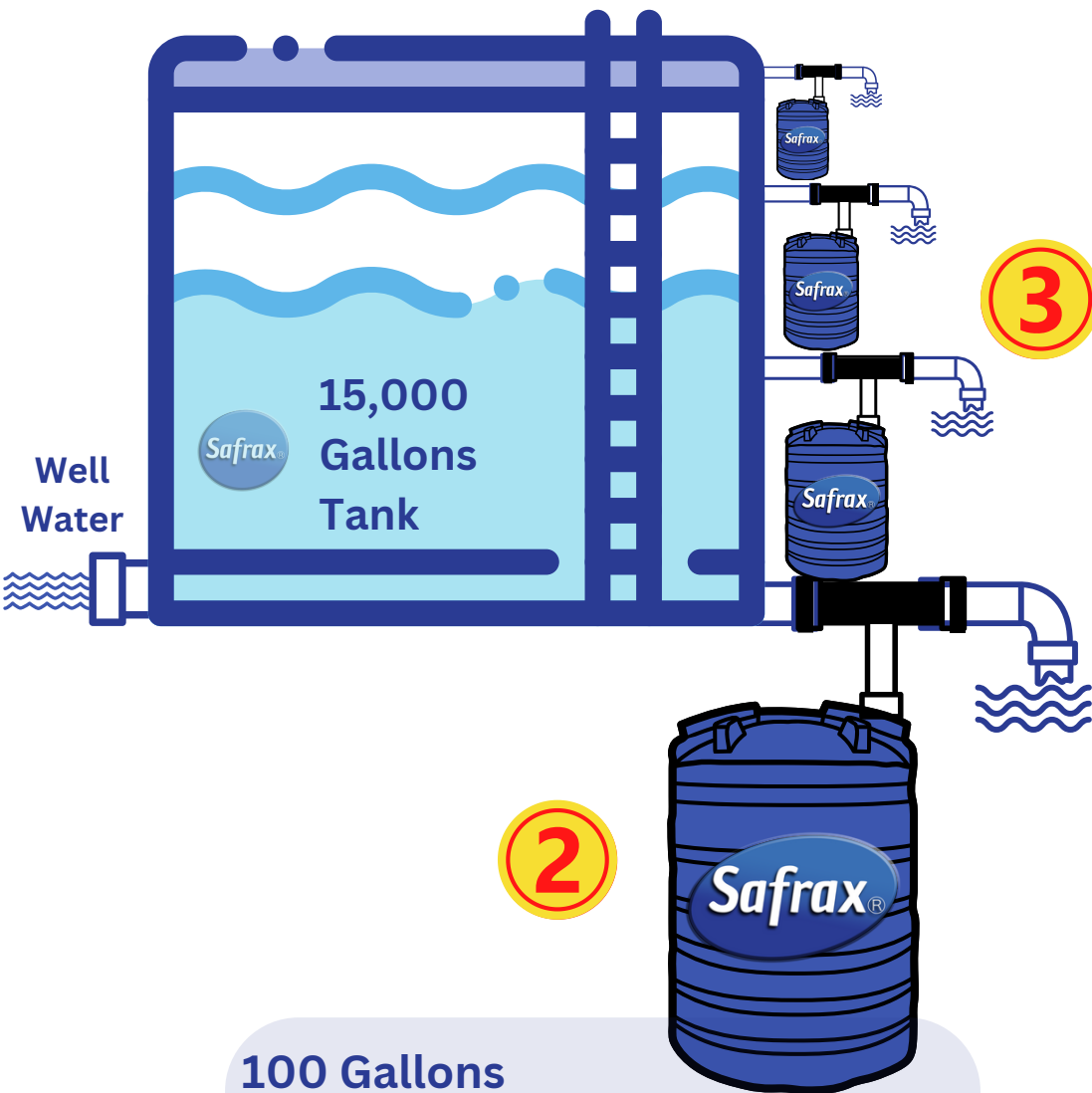
- **Prevention and control of biofilm formation in water pipes, mainly because biofilm tends to proliferate significantly with the introduction of vitamins into the water.**

Safrax® chlorine dioxide ensures a healthier, cleaner, and optimized poultry environment, contributing to the overall success of the farm.

1

Tank Maintenance:

Add **1 PPM** (about 560 tablets) every **15 days**



The level of chlorine dioxide at the outlet is **1 PPM**.

You can increase the PPM level by adjusting the concentration of the Safrax[®] solution or by increasing the injection rate of the configured injector.

100 Gallons

Safrax[®] Mother Solution:

1 bag (500 grams) = **130 PPM**,
replenish every **3 or 4 days** with
injector configured at **5**.



Safrax Chlorine Dioxide Dosage Guidelines for Various Water Sources: Ensuring Optimal Purification and Safety

Type of Water Source	Rainwater:	Tap Water:	Pond, Lake or River Water:	Stagnant or Standing Water:
	Typically cleaner but might contain environmental contaminants.	Varies depending on the municipal source. Might already be chlorinated. Contains piping contaminants/ biofilm.	Contains organic materials and potential pathogens.	Risky due to potential microbial growth. Lots of biofilm.
Recommended Dosage	1 to 3 PPM	1 to 3 PPM	2 to 10 PPM	5 to 25 PPM 25 PPM and up
Frequency of Treatment	<p>Use our Safrax® DOSAGE CALCULATOR: www.safrax.com/calculator</p> <p>The frequency of Safrax® dioxide dosing helps maintain your water's potability and prevents biofilm and algae buildup in your tank.</p> <p>Long-Term Storage:</p> <ul style="list-style-type: none"> • For tanks exposed to sunlight: Add tablets every 7 days. • For tanks not exposed to sunlight: Add tablets every 15 days. <p>Continuous Use: For ongoing treatment, utilize an injector or dispenser.</p> <p>Note: Safrax® chlorine dioxide is not corrosive at these concentrations, ensuring that it won't damage any type of piping or tank material.</p>			



In Emergency Water Purification situations, especially during disaster scenarios, the level of contamination plays a critical role.

The extent of contamination, evident from factors like will dictate the required dosage:

- Color
- Smell
- Presence of biofilm
- Algae

Please Note: More polluted water typically demands a higher initial dose.

Upon adding Safrax® chlorine dioxide tablets to the water, allow it to sit for several minutes. The water should emit a faint scent reminiscent of a chlorinated pool. If this odor isn't noticeable, it's advisable to administer an additional dose and let the water sit for another few minutes.

The presence of this "chlorine pool" smell or a slight "yellowish/greenish" tint indicates that the chlorine dioxide hasn't been entirely consumed by pathogens or contaminants; Highly contaminated water tends to deplete chlorine dioxide rapidly.

If the chlorine taste or scent is overpowering, dilute with more water.

For instance, when considering emergency water sources, such as a pool, the typical chlorine dioxide dose required to make the water potable usually ranges between **5 and 100 PPM**.



**SAFRAX® IS THE PIONEERING COMPANY
MANUFACTURING A READY-TO-USE CHLORINE
DIOXIDE SOLUTION, HOLDING A PATENT SINCE 2011.**



ECO-FRIENDLY



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Compatible with
Organic culture

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