

## **Revised Instructions to Make Chlorine Dioxide Solution**

*Originally from Jim Humble*

### **Ingredients:**

Sodium chlorite powder or flakes  
Citric acid powder or granules  
Distilled water

### **Supplies:**

Kitchen scale with tare feature accurate to 1 gram  
2 large glass jars (approx. half gallon sized) with plastic lids  
Long handled plastic serving spoon  
2 plastic containers or bowls for measuring  
Graduated cylinder that measures up to 100ml  
Plastic single serve coffee pourover or funnel you can put filter into  
Unbleached coffee filter  
2 tinted glass bottles (about 1 quart sized, for storing finished product)  
Plastic teaspoon (for adding small amounts of ingredients)  
Plastic funnel (for bottling)

### **Directions:**

CDS is made from combining equal parts sodium chlorite solution and citric acid solution and then adding distilled water. These instructions are on how to make each solution. When they are combined, they go through a chemical reaction and become chlorine dioxide solution. All measurements for making the two parts of CDS must be exact. You can add or remove water or ingredients in small amounts with the plastic teaspoon until the measurement is precise. Never use metal with the solutions, only plastic or glass.

### **Part 1 – Sodium chlorite (NaClO<sub>2</sub>) solution, 22.4%**

Place glass mixing jar on scale and tare to zero. Measure 720 grams of distilled water. Reset scale and place plastic container or bowl on scale and tare to zero. Measure 300 grams of sodium chlorite powder or flakes. Add to water and stir well until sodium chlorite is fully dissolved. This may take several minutes. Put on lid and store in a dark place for 24 hours.

After 24 hours, the solution should be slightly yellow. If it's badly discolored, discard and try again with a different brand of sodium chlorite. Pour through a coffee filter into the other glass jar.

### **Testing the NaClO<sub>2</sub> solution**

Put graduated cylinder on scale and tare to zero. Pour 100ml of solution into cylinder. The weight should be 122g. Transfer the finished solution using funnel to the tinted glass bottle and store in a cool, dark place. Your solution will probably be correct if everything was measured carefully and you won't need to make adjustments.

If the weight is above or below 122g, put back into glass jar. If the weight was over, use the plastic spoon to add a small amount of water, stir, and measure again. If the weight was under, add a small amount of sodium chlorite, stir until dissolved, and measure again. As long as the solution is close to 122g it will work (sometimes the kitchen scale is not perfect). After 24 hours, filter, transfer to tinted bottle and store.

### **Part 2 – Citric Acid Solution**

*Note: Some people use hydrochloric acid solution as part 2 of the CDS kit. Citric acid and hydrochloric acid solution, when mixed with the sodium chlorite solution in equal parts, both yield the exact same finished product, chlorine dioxide solution. In either case a chemical reaction takes place that creates a new molecule, and it is the same molecule either way, with the same constitution and properties. Therefore, in the interest of ease and not using a corrosive substance in the home, we offer these instructions using citric acid, which is extremely simple and forgiving to work with.*

Place glass mixing jar on scale and tare to zero. Measure 500g distilled water. Place plastic bowl on scale and tare to zero. Measure 500g of citric acid powder or granules. Add citric acid to water and stir until fully dissolved. This may take a few minutes. The solution will turn cold. Use funnel to transfer to tinted glass bottle, and store in a cool, dark place.

### **Using the CDS**

Transfer each solution to two dropper bottles. Make sure to keep your bottles labeled so solutions don't mix. Add one drop of sodium chlorite solution to a shot glass. Then add one drop of citric acid solution to the shot glass. Shake gently to combine. The solution will turn golden brown. Add distilled water to the shot glass. Depending on the application you'll be using the CDS for, you will make it stronger or weaker using equal parts NaClO<sub>2</sub> and citric acid solutions. An average dose to be taken three times a day when fighting an illness is 3 + 3 drops in 3oz water.