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17oct'21 Making Quick CDS using my 2012-2013 original overnight, shot-glass, methods containers.

Instead of using MMS (22.4% sodium chlorite solution) and 4% HCL for the activator ingredients, Sodium Chlorite Flakes (SCF) and Citric Acid Crystals (CAC), are added to very small amounts of hot water, just before being added to the shot-glass activator container. This idea came from Murilo Perrone.

The amount of warm water added to each dry ingredient is just enough for each dry ingredient to be fully dissolved into its own water. Then, they are combined into the shot-glass activator container.

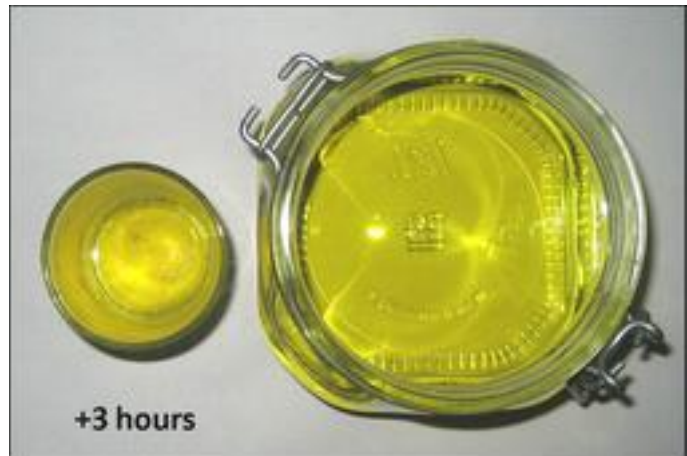
The recipe used for this test was 250ml of CDS water added to the 500ml glass container. See below.

The two reactor ingredients are mixed in separate small glass containers, which are similar to a shot-glass. They are called votive candle holders and measure 50mm in diameter, 62mm high and have an ID of 46mm (2" x 2.5" x 1.8"). Total reactor solution is about 15ml vs 24ml for the 2012 recipe.

At +3 hours 3665 ppm, 3.5 pH, 97 TDS, 39% efficiency conversion of sodium chlorite to chlorine dioxide. Everything and activation at room temperature. The receiver did leak out some CLO2 gas.



17oct'21 500ml container with 250ml water. "shot glass" with 5g SCF+5.5ml water plus 5g CAC+4.5ml water. Photo at +30 minutes.



It seems we have come full circle from my original overnight, shot-glass, two infusion methods I developed during 2012-2015, which took from overnight to two days to produce 3000ppm CDS, to 2021 where using the same receiver and activator containers, we can now make 3000ppm CDS in three hours. This seems to be an easy way to make Quick CDS. And, many people have the containers.

In addition to now making CDS in 3 hours, we can use ingredients that have a very long shelf life.

Sodium chlorite flakes can be stored for 20 years and citric acid crystals at least 9 years, by my testing. Add CAS to SCS very slowly to prevent overflowing into CDS.

Another important reason to use dry ingredients is that there is **no question about their concentrations**. We are **not** using them to make any specific concentrations; only using specified weights as per the recipe. The small amount of added warm water to each reactor ingredient is just enough to completely dissolve them into the water. That allows for very fast activation, which releases chlorine dioxide gas from the sodium chlorite solution. That chlorine dioxide gas then dissolves into the 250ml of CDS water. --CL



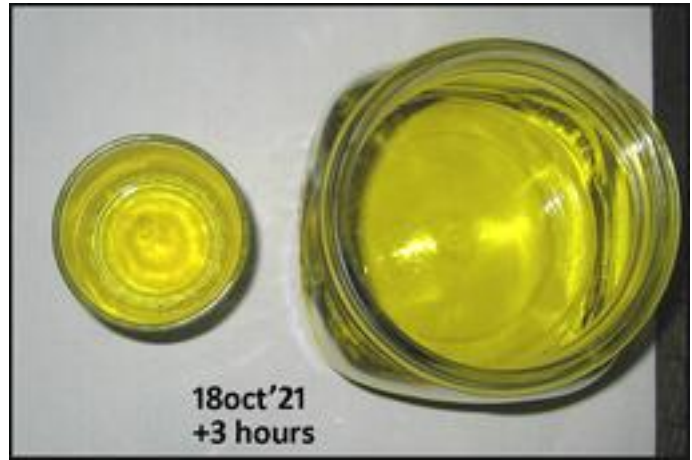
Typical reactor solution depth and color in 2012

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18oct'21 Start test at 1930 using a glass Ball Collection Elite pint 500ml (16 fl oz) wide mouth Jar and Ball black, Leak-proof lid. 250ml of CDS water in the jar and 5g SCF + 5.5ml of water plus 5g CAC + 4.5ml of water in a glass votive candle holder. Almost immediately after the two ingredients were combined, the CDS water was showing yellow color. Very fast activation! There was a slight CLO<sub>2</sub> gas odor. The pressure inside the jar must be quite high when activation begins.

Photos at +30 seconds, +4 minutes, +1 hour, 3 hours. At +3 hours 3400 ppm. 37% efficiency.





**0.342 grams of dry NaClO<sub>2</sub> flakes will make 1 ml (20 drops) of MMS (22.4% SCS)**

It is important to realize that we are not making these two activator solutions to any specific concentrations. We are only weighing the two ingredients and adding a small amount of hot water to each ingredient to completely dissolve them, then combine the two in the reactor container.

Be sure to add the second reactor ingredient SLOWLY so the solution does not bubble up and spill into the CDS water. If that happens, you will have to start over. :(

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