

## CDS Generation - Room Temperature vs Fridge

The 12 hour overnight method of making CDS (chlorine dioxide solution) was tested to see if there is a difference in the amount of CLO<sub>2</sub> (chlorine dioxide) produced when CDS generation occurs at room temp or fridge temp. For these 12 hour tests room temp was about 72°F (22°C) while fridge temp was 38°F (3°C). All containers and solutions were at room temperature at the beginning of testing.

One quart glass canning jars with plastic lids plus silicone ring seals were used. 800 ml of distilled water was put in each jar. 1 ml of MMS (22.4% sodium chlorite solution) plus 1 ml of 50% citric acid were placed inside plastic bottle caps from Schweppes drink bottles. The solution-filled bottle caps floated on top of the distilled water.

### Testing results:

Room temperature = 106 ppm CLO<sub>2</sub> in 800 ml

Fridge temperature = 103 ppm CLO<sub>2</sub> in 800 ml

**Essentially there is no practical difference between CDS made at room temp or refrigerator temperature.**

CDS generation should be less in a cold environment, but there will be more CLO<sub>2</sub> absorption into distilled water at lower temperatures.

In both cases there is about 80 mg of CLO<sub>2</sub> produced and if the 800 ml of CDS is divided into eight parts, one part per hour for ingestion dosing, each 100 ml dose contains 10 mg of CLO<sub>2</sub>. MMS1 when ingested should produce a total of 6.7 mg of CLO<sub>2</sub> per 1 drop (of MMS) in a normal stomach, so **each CDS 10 mg dose is equivalent to a 1.5 drop MMS1 dose**. The standard number of drops for these calculations is 24 drops per milliliter of solution.

Advantages to making overnight CDS in a fridge are 1, no light and 2, there is no need to cool down CDS to keep CLO<sub>2</sub> escaping to a minimum due to being below 50°F (10°C), when the receiver container jar lid is opened to remove and discard the CDS generation solution in the floating bottle cap reactor.

### CDH made with 4% HCL was tested the same way with these results:

CDH made at room temperature = 3354 ppm in 240 ml (average of 2 tests)

CDH made at fridge temperature = 2654 ppm in 240 ml (average of 2 tests)

**CDH made with 10% HCL:** Room temperature = 3840 ppm, fridge = 4590 ppm

Unlike CDS, CDH ppm information is not important if ingested, as the number of MMS drops used to make CDH determines the total amount of CLO<sub>2</sub> available. (Thanks to G2C Bishop and forum admin "ix" for this testing idea)



**CDS activation: room temp vs fridge. 800 ml distilled water, 1 ml MMS + 1 ml 50% citric acid. Both 100 ppm CLO<sub>2</sub>. 12 hours.**