

CDS Made in a 250 ml Capacity Canning Jar with Screwtop Lid + Silicone Ring

and a method to reduce loss of chlorine dioxide (CLO₂) gas when taking out CDS doses

Water = 120 ml (I used Berkey + Zero filtered water; distilled water is best) in receiver jar

MMS = 6 ml in reactor jar (NOTE: 60 mg of CLO₂ generated from 1 ml of MMS in both size jars.)

HCL 10% = 6 ml in reactor jar (4% HCL could be used by following the [double infusion method](#))

CDS (Chlorine Dioxide Solution) CLO₂ concentration = 2676 ppm

I'm estimating that using 8 ml of MMS & 10% HCL should produce 3000+ ppm CDS.

Tested 3 April 2019 **UPDATE**: 8 ml of MMS & 10% HCL produced **4750 ppm CDS** made in a fridge. 16Aug'19

A 2 mm diameter hole was drilled in the plastic canning jar lid (Masontops 'Tough Tops') and covered with a small piece of aluminum tape. I found the plastic tops, with silicone rings, at Amazon. Note that the receiver is **not** opened to take out spent reactor solution or CDS.

The receiver jar was filled with 120 ml of water. The reactor jar was filled with 6 ml of 10% HCL and placed inside the receiver. The plastic lid was then put on the receiver jar. (HCL reacts with stainless steel, MMS does not.)

A long stainless steel needle and syringe were used to inject 6 ml of MMS into the reactor through the 2 mm hole in the lid. When 12+ hours of activation time had passed, the spent reactor solution was suctioned out using the syringe and long needle. CDS can be taken out of the receiver jar via the same 2 mm hole in the receiver lid. Move the reactor away from the hole.

Reactor is a cut-down 4 fl oz (120 ml) glass bottle. It stays in the receiver, empty. CDS is stored in a fridge.



UPDATE:
120 ml distilled water in receiver, 6 ml MMS plus 6ml 4% HCL in reactor yielded 3060 ppm after 36 hours in a fridge at 44°F temperature. pH = 4.3 @36 hrs

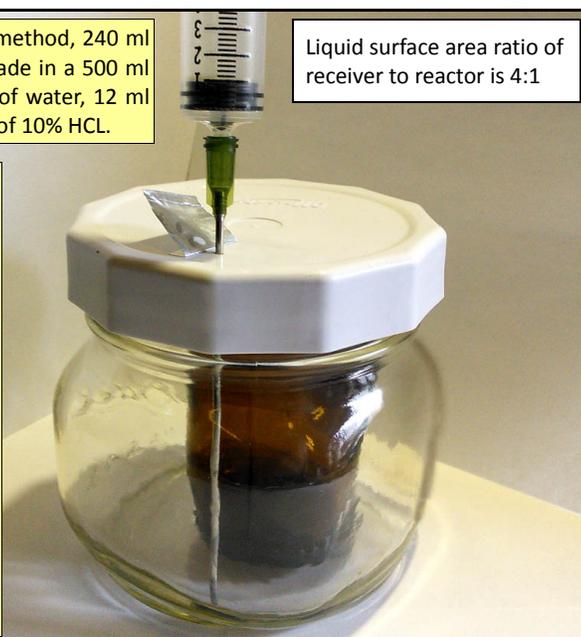


Using this same method, 240 ml of CDS can be made in a 500 ml receiver. 240 ml of water, 12 ml of MMS & 12 ml of 10% HCL.

Liquid surface area ratio of receiver to reactor is 4:1

Reactor, syringe, blunt tip needle and extra aluminum tape seals can be stored inside the receiver jars for portable use.

Note that the tape adhesive prevents CLO₂ gas from reaching the aluminum part of the tape seals.



Pure chlorine dioxide does not corrode stainless steel