

CD ClorDiSys

"The Chlorine Dioxide People"

Chlorine Dioxide Gas For Use by Certifiers

Chlorine Dioxide (CD) Gas has many applications for the Certification business. It can be used to decontaminate biological safety cabinets (BSCs), incubators, rooms, suites, and entire facilities. As a gas, CD is a direct replacement of formaldehyde as a decontaminating agent, is non-carcinogenic and requires no neutralization. There are two systems available for certifiers, a Manual CD Generator which can be used to decontaminate BSCs, incubators, ductwork, rooms and facilities. The other system available is our CHEM-CD mixed powder method of creating Chlorine Dioxide Gas. This method can be used on BSCs and is packaged to accommodate NSF 49 standards for BSCs.



Cost

The cost of the equipment is very affordable and pays for itself quickly. Adding one Manual CD Generator to your business gives you the capacity to decontaminate volumes of up to 40,000 ft³, or smaller volumes multiple times. Additional Manual CD Generators can be bought or rented for specific jobs, allowing for even greater volumes to be decontaminated. Using our CHEM-CD allows for an easily portable, and very affordable, single serving method for BSCs.



Chlorine Dioxide Cycle Times and Costs

50 cubic foot BSC

Total cycle time under 2 hours
Total consumable cost:
\$10.94 (Manual Generator)
\$50 (CHEM-CD)

2000 cubic foot room (10' W x 20' L x 10' H)

Total cycle time 3.8 hours
Total consumable cost:
\$87.50 (Manual Generator)

Speed

The main cost savings when decontaminating with Chlorine Dioxide gas are due to the savings in time that are achievable. Decontaminating a Biological Safety Cabinet takes under two hours from start to finish using chlorine dioxide gas. With that, it is not necessary to return the next day to finish the job like it is with formaldehyde. Decontaminating a room can take as little as 3.5 hours, and entire facilities can be decontaminated in one day.

Job Referrals

Clordisys Solutions, Inc works closely with certifiers who use our equipment. We routinely pass along jobs that we are contacted about to the certifiers we work with, offering our certifiers support during the quoting, planning, and decontamination phases if necessary.



P.O. Box 549, Lebanon, NJ 08833-0549 Tel:(908) 236-4100 Fax:(908) 236-2222

www.clordisys.com

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Safety

- **Self Alerting**
CD has an odor threshold at or below the 8-hour safety level so the user is aware of exposure before dangerous levels are present.
- **Shorter Cycle Times**
Less time for potentially unsafe conditions to exist
- **Quicker Emergency Aeration**
CD aerates faster than VPHP and Formaldehyde and requires no conversion or neutralization
- **Non-carcinogenic**
Chlorine Dioxide Gas is non-carcinogenic unlike Formaldehyde
- **Complete Decontamination**
As a gas, CD and Formaldehyde are able to reach and penetrate all areas that vapors have trouble reaching. Safety becomes compromised when a decontamination agent is unable to kill the dangerous organisms present in the target chamber.

Chlorine Dioxide Gas vs. "Vapor" Phase

Hydrogen Peroxide

- Hydrogen Peroxide is a liquid at room temperatures with a boiling point of 109°C, limiting distribution.
- Unlike CD, VPHP has trouble penetrating HEPA filters.
- Gaseous CD does not require condensation or lack of condensation as VPHP does.
- Gaseous CD has much quicker aeration due to minimal absorption and lack of condensation.
- Gaseous CD has better efficacy.

Room Size	CD generators required	VPHP generators required
1000 cu ft	1	1
15000 cu ft	1	10
30000 cu ft	1	20

Chlorine Dioxide is NSF 49 Approved

Chlorine Dioxide Gas has been approved by NSF International under Annex G of NSF/ANSI 49 for the decontamination of Biological Safety Cabinets (BSCs). Chlorine Dioxide Gas now joins formaldehyde as the only formally approved methods for decontaminating BSCs. Without some of the drawbacks of formaldehyde, including its need for residual clean up and its status as a carcinogen, chlorine dioxide gas has many of its benefits. It is easily distributed throughout the BSC due to its gaseous nature, has good penetrability, and has the proper sporicidal activity. The total time for decontamination is also much shorter, a cycle which generally went overnight with formaldehyde only takes 90 minutes when using chlorine dioxide gas.

Chlorine Dioxide Gas vs. Formaldehyde

- Formaldehyde requires manual wiping and neutralization of residuals
- Formaldehyde "falls out" upon contact with cold surfaces
- CD has Far Quicker Aeration and clean up due to no residuals
- CD is non-carcinogenic, unlike formaldehyde
- CD has BSC cycle exposure times of 85 minutes as opposed to 6-12 hours with formaldehyde

*The International Agency for Research on Cancer classified formaldehyde as carcinogenic to humans

Chlorine Dioxide Gas Applications

- Biological Safety Cabinet Decontamination
- Room Decontamination
- BSL Suite Decontamination
- Facility Decontamination
 - Commissioning
 - Renovation
 - Decommissioning
- HVAC Ductwork Decontamination
 - Renovation
 - Decommissioning
- Incubator Decontamination
- HEPA Housing Decontamination



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