

## 5 % Chlorine Stock Solution Recipe

Homemade Liquid Bleach -- Do not drink!

Water	Dry 68% Calcium Hypochlorite
1 cup	1 ½ teaspoon
1 quart	2 Tablespoon
2 quarts	4 Tablespoons
1 gallon	8 Tablespoons

## Chlorine Bleach - Water Disinfection

For Chlorine Stock Solution or Regular Liquid Bleach

Amount of Water	Amount of Bleach Clear Water	Amount of Bleach Cloudy or Questionable Water
1 quart	2 drops	4 drops
2 quarts	4 drops	8 drops
1 gallon	8 drops	16 drops
5 gallons	½ teaspoon	1 teaspoon
15 gallons	1 ½ teaspoon	1 tablespoon
30 gallons	1 tablespoon	2 tablespoons
55 gallons	5 ½ teaspoons	11 teaspoons

## Dry Calcium Hypochlorite (68%)

Calcium hypochlorite may have up to a 10 year shelf life if stored in a cool, dark place. It is a hazardous chemical which can cause chemical burns to the skin, eyes and mucous membranes. Store away from metals. Use carefully and store out of reach of children.

Purchase [calcium hypochlorite](#) with a minimum of 68 percent available chlorine. A one pound bag can disinfect thousands of gallons of water. Do not store large amounts. One pound is plenty for an entire family.

The Departments of the Army, Navy, and Air Force released a publication entitled, *Sanitary Control and Surveillance of Field Water Supplies*, on 1 May 2010 where they set standards for use of calcium hypochlorite for water disinfection in the military (U.S. Army Center for Health Promotion and Preventive Medicine 2003). Calculations for the stock solution are from these standards.

The chlorine content in a stock solution will gradually diminish over time. It is best to store it in the powdered form and mix up fresh batches of the stock solution as needed.

When using the stock solution to disinfect drinking water, the military standard recommends mixing and allowing water to stand for a minimum of 30 minutes to ensure adequate disinfection time prior to consuming. Extremely cold water may require additional chlorine or longer contact time to deactivate pathogens in the water.

Dry calcium hypochlorite can be used to disinfect a 55 gallon barrel of water. Add 1/4 teaspoon to a filled barrel of water. Seal the barrel and wait at least 24 hours before consuming. The water should have a slight chlorine odor. If not, repeat the process.



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TB MED 577 Table from: *Sanitary Control and Surveillance of Field Water Supplies*, on 1 May 2010 – Page 70

Table 10-5  
Volume of dry HTH required to make a 5 percent (50,000 mg/L) bleach solution in different volumes of water, and the area each volume will decontaminate

Amount of dry calcium hypochlorite	Gallons of water	Square yards <sup>1</sup> covered	Square meters covered
½ cup (.499) <sup>2</sup>	1	8	7
2 ½ cups (2.43)	5	40	35
5 cups (4.86)	10	80	70
7 1/3 cups (7.30)	15	120	105
3 quarts (3.04)	25	200	175
6 quarts (6.08)	50	400	350
2 gal, 1 1/5 quarts (2.28)	75	600	525
3 gal (3.03)	100	800	700
4 ½ gal (4.55)	150	1200	1050
6 gal (6.08)	200	1600	1400
7 gal, 2 ½ quarts (7.599)	250	2000	1750

<https://dmna.ny.gov/foodservice/docs/references/tbmed577.pdf>