

Preparing a Given Concentration of Sodium Hypochlorite from a Bleach Solution

Steps:
 This table calculates the amount of bleach solution (%) that should be diluted with water to get a desired concentration (ppm) of sodium hypochlorite.
 To use this table simply enter:

1. Volume of solution required in Litres (1 Litre =1000 mL)
2. Desired concentration of sodium hypochlorite in parts per million (PPM)
3. Concentration of bleach solution in percent
4. Press "enter"

Precautions

- Always follow safety precautions and the manufacturer's directions when working with concentrated solutions of bleach (sodium hypochlorite). To avoid injury, use appropriate personal protective equipment during handling (read the label and refer to the material safety data sheet).
- Chlorine bleach solution might damage some surfaces (e.g., metals, some plastics) so it is advisable to check with the manufacturer before using.
- For chlorine bleach solution to be effective a certain amount of contact time with the surface is needed. Contact time varies according to what is being disinfected.
- Always add the bleach to water, not water to the bleach.
- Never mix ammonia products with bleach or bleach-containing products. This practice produces chlorine gas - a very toxic gas that can cause severe breathing problems, choking and potentially death.
- To be more effective preclean the surface first before using the chlorine bleach solution.
- A bottle of bleach has a shelf life so check the bottle for an expiry date or with the manufacturer for the shelf life of the product.
- Do not pre-mix the water and bleach solution, as it loses potency over time.

	Enter desired information	10 L Equals			
Volume of solution required (L) (1 Litre =1000 mL)	10.00	2.6 Gallons (US)	2.22 Gallons (Imperial)	10,000 mL	40 Metric cups
Desired concentration of sodium hypochlorite (PPM)	1,000				
Concentration of bleach solution (%)	5.25				

In the cells below is the volume of bleach solution, at 5.25% concentration, that should be added to 9809.523 ml or 9.809 L of water to equal a total volume of 10000 ml or 10 L (1:52 dilution of bleach to water ratio)

mL	190.477	Use a graduated pipet/cylinder
L	0.19	
Gallons (US)	0.05	Too small to accurately measure; use another unit of measurement
Gallons (Imperial)	0.04	Too small to accurately measure; use another unit of measurement
Grams	190.477	Use an accurate weigh scale
Kilograms	0.19	
Fluid oz.	6.44	
Teaspoon	38 1/8	Unit too large, consider using another unit of measurement
Tablespoon	12 6/8	
Metric cup	6/8	

The calculation performed above is based on the following equation:

$$C1 \times V1 = C2 \times V2$$

Where:

- C1** is the initial concentration of the bleach (sodium hypochlorite) solution.
- V1** is the volume of bleach to be diluted with water. This is what you are trying to calculate.
- C2** is the concentration of the diluted bleach solution you are preparing.
- V2** is the volume of bleach solution you are preparing.

Contact: If you have any questions or ideas on how to improve this calculator please contact Dru Sahai at dru.sahai@oahpp.ca

Disclaimer:

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