

# Chlor Boost Nu-Well 410 Chlorine Enhancer

## Description

**Chlor-Boost** is a unique chemistry that improves the biocidal capabilities of chlorine while increasing the treatment area into the bore hole and well formation, and providing secondary cleaning, significantly enhancing traditional chlorination efforts.

- Used with hypochlorite to increase effectiveness of chlorination
- Maintains pH in well at 6.5 during chlorination, increasing hypochlorous acid
- Increases biocidal activity by more than 100 times that of hypochlorite alone
- Contains a penetrant to allow deeper and more complete disinfection
- Controls calcium in hard water to increase the effectiveness of calcium hypochlorite
- Provides secondary cleaning of bacteria and biofilms in the borehole
- NSF certified for potable water well use



## Application

Laboratory testing and field trials demonstrate that successful well chlorination is achieved with a chlorine concentration of 200 ppm. The following procedures are recommended for using **Chlor-Boost** chlorine enhancer with chlorine concentrations of 200 ppm.

1. Determine the static volume, the amount of **Chlor-Boost** and the amount of chlorine product necessary to treat the well. (Consideration should be given to increasing this volume by two to four times to allow sufficient disinfectant solution to reach all areas of the well and borehole that can harbor coliform bacteria or other contaminating organisms.)
2. In a tank on the surface, add the amount of **Chlor-Boost** to water as estimated from dosage guide. Mix the solution and measure the pH. The pH of the solution should be between 4.5 and 5 before adding the hypochlorite. All mixing should be done in a well-ventilated area. Caution: When chlorine is placed in an acid pH of 5.0 or lower, chlorine gas can be released. When the hypochlorite solution or powder is added, the pH will rise immediately, preventing any further chlorine release, but you should add the hypochlorite quickly and move away until the pH rises.
3. Place the chlorine solution in the well, evenly washing down the upper levels of the well before you place the solution throughout the water column
4. Agitate or surge the mixture to ensure good coverage. Let the solution stand in the well for 5 to 12 hours. Additional agitation before removal is beneficial. **Chlor-Boost** is buffered to hold the pH at the optimal level. However, if additional **Chlor Boost** is required, blend in a volume equal to 25 percent of the original mixed volume and add carefully so that the pH does not drop below 5.0, resulting in release of chlorine gas.
5. Pump the solution to the surface, neutralize using **Chlor-Out NW-500**, and discharge in accordance with local rules and regulations.

## Physical properties, shipping and handling

**Appearance:** Clear, light amber liquid

**Density:** 9.3 lbs./gal.

**pH (as shipped):** 2.4 - 3.4

**Specific Gravity:** 1.12

**Freeze point:** 26° F (-3° C)

**Solubility (in water):** 100%

**Use range:** 0.01 to 1% by volume

**Volatility:** Non-volatile

- This product is not considered dangerous and does not require special handling or disposal
- Avoid contact with strong acids or alkaline-based products
- Not regulated as a hazardous material under 49CFR 172.101
- Additional physical and handling data are available on the product SDS
- 1 gal. and 5 gal. containers can be shipped by UPS ground delivery
- Available in 1, 5, 30 and 55 gal.

## Dosage Guide Clay Dispersant

Nominal Well Size		NW-410		Calcium Hypochlorite 65%		Sodium Hypochlorite 12%		Sodium Hypochlorite 5%	
in.	mm	qt./ft.	l/m	lbs./ft.	kg/m	gal./ft.	kg/m	gal./ft.	kg/m
2	51	0.0002	0.002	0.00042	0.00062	0.00027	0.0033	0.0006	0.0079
3	76	0.0004	0.005	0.00096	0.0014	0.00062	0.0076	0.0015	0.018
4	102	0.0007	0.008	0.0017	0.0025	0.0011	0.013	0.0026	0.032
5	127	0.001	0.01	0.0027	0.0039	0.0017	0.021	0.0041	0.051
6	152	0.002	0.02	0.0038	0.0057	0.0025	0.030	0.0059	0.073
8	203	0.003	0.03	0.0068	0.010	0.0044	0.054	0.010	0.13
10	254	0.004	0.05	0.011	0.016	0.0068	0.085	0.016	0.20
12	305	0.006	0.07	0.015	0.023	0.0098	0.12	0.024	0.29
14	356	0.008	0.1	0.021	0.031	0.013	0.17	0.032	0.40
16	406	0.01	0.1	0.027	0.040	0.017	0.22	0.042	0.52
18	457	0.01	0.2	0.034	0.051	0.022	0.27	0.053	0.66
20	508	0.02	0.2	0.043	0.063	0.027	0.34	0.065	0.81
22	559	0.02	0.3	0.051	0.076	0.033	0.41	0.079	0.98
24	610	0.02	0.3	0.061	0.091	0.039	0.49	0.094	1.17
26	660	0.03	0.3	0.072	0.11	0.046	0.57	0.11	1.37
30	762	0.04	0.5	0.096	0.14	0.061	0.76	0.15	1.83
34	864	0.05	0.6	0.12	0.18	0.079	0.98	0.19	2.35
36	914	0.05	0.7	0.14	0.20	0.088	1.10	0.21	2.63

**Note:** Amounts based on application of 200 ppm chlorine concentration into well water with alkalinity of 100 ppm.

**Tip:** Optimal results are obtained when the surface solution is two to four times the well volume, providing sufficient hypochlorite ions to disperse into the gravel pack and immediate surrounding formation where coliform organisms and nuisance bacteria exist. For large wells, this may not be practical and multiple batches, with proportions of chemistry, may be required to achieve desired results.

### Example

Disinfect a 16 in. well, TD = 300 ft, SWL = 50 ft. with calcium hypochlorite 65% active

#### Step 1

Static height = (300 ft. - 50 ft.) = 250 ft.

#### Step 2

Amount **Chlor-Boost** =  
250 ft. x 0.01 qt./ft. = 2.5 qt.

#### Step 3

Amount hypochlorite =  
250 ft. x 0.027 lb./ft. = 6.8 lbs.

#### Step 4

Batch: 250 ft. x 10.47 gal./ft. = 2,618 gal. water (2,618 gal. + 2.5 qt. + 6.8 lbs.)

If well water alkalinity or the recommended chlorine dosage level is greater than the standard values in the above table, adjust the amount of **Chlor-Boost** and the amount of hypochlorite concentrations as shown below

Chlor-Boost	Hypochlorite
Amount above x (Alk/100)	Amount above x (recommended concentration/200)

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