



KlearWell 440 ChlorHelp

CHLORINE ENHANCER

Description

- KlearWell 440 ChlorHelp is used with all chlorine solutions to increase the effectiveness of chlorination.
- KlearWell 440 ChlorHelp maintains pH in well at 6.5 during chlorination, increasing hypochlorous acid.
- KlearWell 440 ChlorHelp makes traditional chlorine 100 times more effective for disinfection.
- KlearWell 440 ChlorHelp contains penetrating surfactants and dispersants to allow deeper and complete disinfection and to keep all organic debris in suspension for complete cleanout.
- KlearWell 440 ChlorHelp is NSF Standard 60 certified for potable water well use.

Background

Successful well chlorination can be achieved without using highly oxidative 500 to 1000 mg/L shock chlorine concentrations. Studies have shown that slime biofilms, generally comprised of polysaccharides, are resistant to high doses of traditional chlorine. The strong oxidation of a polysaccharide produces a hardened gum and creates a darkening and thickening of the outer biofilm layers. Biofilms treated with extreme non buffered chlorine often show a resistance to chlorine. The biocidal effectiveness of traditional chlorine is based on pH and is only 100% biocidal between a pH of 5.5 and 6.5.

Application

1. When treating a well you should plan for a chlorine solution of 200 to 250 mg/L in sufficient volume to equal two to four times the standing well volume.
2. In a tank on the surface, add KlearWell 440 ChlorHelp chlorine enhancer to water. 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 or outside. Stand upwind as the hypochlorite is added to the pH adjusted water. Neutralization above 5.0 will be immediate and will minimize off gassing.
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. Vigorously agitate or surge the mixture to ensure good coverage.
5. Let the solution react in the well for a minimum of 5 hours. Letting the enhanced chlorine solution react in the well overnight increases the effectiveness of the disinfection process. Additional vigorous agitation before removal is beneficial and recommended.
6. Pump the solution to the surface and neutralize using KlearWell 486 ChlorStop, and discharge in accordance with local rules and regulations.

Physical Properties, Shipping and Handling

Appearance	Clear, yellowish liquid
Density	9.4 lbs/gal
Volatility	Non-volatile
pH	2.9
Solubility	Complete in water
Freeze point	25°F (-3.9°C)

- This product is not considered dangerous and does not require special handling or disposal. Avoid contact with strong acids or alkaline-based products. Does not contain any chemicals currently on the California list of known carcinogens and reproductive toxins.
- Not regulated as a hazardous material under 49CFR 172.101, RECRA, SARA and CERCLA.
- 1 gallon and 5 gallon containers can be shipped by UPS ground delivery.
- Additional physical and handling data are available in the product MSDS.
- KlearWell 440 ChlorHelp is available in 1, 5, 30, and 55 gal containers.