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How to Disinfect a Commercial Well and Water System

Overview

Use standard liquid sodium hypochlorite (bleach) to shock chlorinate the commercial water system. This process involves calculating the correct dosage, introducing the disinfectant into the well, circulating it throughout the distribution system, allowing contact time, flushing, and retesting.

Step-by-Step Instructions for Shock Chlorination

Access the Wellhead

- Commercial wellheads may be enclosed or secured. Coordinate with your facilities or maintenance team to safely access the well cap or vent pipe.
- Do not remove bolts from sealed caps unless you are certain they do not support internal components like the pump or drop pipe.
- If unsure, consult a licensed well contractor or pump technician.

Calculate the Required Bleach Volume

- Target an initial chlorine concentration of 50–100 ppm.
- Use the depth of water column (not total well depth) and well diameter to estimate bleach volume. Refer to engineering specs or well logs for accurate measurements.
- For large commercial wells, consider using bulk sodium hypochlorite (12.5%) and consult a water treatment specialist for precise dosing.

Use the Correct Type of Bleach

- Use unscented, plain sodium hypochlorite (5–6% concentration).
- Avoid products with additives, fragrances, or thickeners.

Dilute the Bleach

- Mix bleach with clean water before introducing it to the well.
- Example: Use 2 cups bleach per 2-gallon bucket of water.
- This prevents corrosion of metal components.

Introduce the Solution into the Well

- Carefullypourthediluted bleach into the well via the vent pipe or designated access point.
- Avoid splashing and wear appropriate PPE.

Circulate the Chlorinated Water

- Use a hose connected to a nearby faucet to recirculate water back into the well.
- Run until chlorine odor is detected.
- If no odor is present, add more bleach and repeat.

Distribute Chlorine Throughout the System

- Open all fixtures (sinks, showers, hose bibs, etc.) one at a time.
- Run water until chlorine odor is present.
- Include hot water taps to ensure water heaters are disinfected.

Hold Time

- Allow the chlorinated water to sit in the system for 6–12 hours.
- Do not use the water during this period, except for minimal toilet flushing.

Flush the System

- Flush the wellby running outdoor hoses until chlorine odor dissipates.
- Then flush indoor plumbing fixtures.
- Avoid discharging chlorinated water into septic systems or onto vegetation.

Retest the Water

- After2–3days, collect samples and test for coliform bacteria or other desired control parameter.
- Do not resume consumption or use until results are negative for contamination.

Additional Notes for Commercial Systems

- Coordinate with local health departments or water system operators for compliance.
- Maintain documentation of disinfection procedures and test results.
- Consider installing sample taps and chlorine residual monitors for ongoing water quality assurance.
- Check all manufacturer restrictions prior to using sodium hypochlorite.

Always call you local specialist when questions or concerns come up.