Chlorine is a commonly used for disinfection of drinking water since it is a strong oxidizing agent, cost-effective, and relatively easy to use. Chlorine is supplied in many forms, which include chlorine gas, hypochlorite solutions, and other chlorine compounds in solid or liquid form.

Water systems commonly use hypochlorite solutions for disinfection. Regulations and best practice is to use a disinfectant product that is certified to NSF/ANSI standard 60. <u>WAC 246-290-220</u> has an exception to NSF 60 to use commercially retailed hypochlorite compounds or bleach for disinfection. This exception is for bleach with **no** additives.

Bleach Exception

Commercially retailed hypochlorite bleach available at grocery stores, hardware stores, or convenience stores commonly uses sodium hypochlorite as the active chlorine compound. The percent available chlorine can be listed as 6 percent to 12 percent (the percent is equivalent to 60,000 mg/L to 120,000 mg/L). Commercially retailed bleach is intended for laundry and cleaning. Today it is difficult to find bleach without additives intended for laundry use. It is important to inspect the bottle for **any** additives, which are **not safe** for human consumption. These include:



- Added scents like lemon or lavender.
- Gel additives such as splash-less, splash-free, or splash quard.
- Other technology intended for laundry like cloromax.

When the bleach exception was written into WAC 246-290-220(3) there were no additives in commercially available bleach. Now Clorox offers bleach with cloromax technology, which uses a patented combination of polymers for laundry use and is not intended for drinking water use. Only use Clorox and Purex bleach in an emergency for drinking water disinfection.

Recommended bleach products certified as NSF/ANSI/CAN Standard 60 are available on the NSF Product listing website.

Review Container for NSF/ANSI Standard 60 Certification

Bleach lables list the active ingredients and the percentage of all "other" ingredients. The other ingredients are potentially not safe for human consumption. For use of hypochlorite in drinking water, best practice is to purchase a disinfectant that is certified ANSI/NSF standard 60.

Be sure to look for the NSF certification mark on the chemical container with the NSF/ANSI 60 (it could also be listed as NSF/ANSI/CAN 60). **The NSF logo with no information to the certification standard is not equivalent to a standard 60 listing.** The NSF rating may not be on the SDS sheet.

NSF/ANSI Standard 60

The American National Standards Institute (ANSI) oversees development of voluntary consensus standards.

The National Sanitation Foundation (NSF), is an independent organization that develops public health standards. NSF conducts product testing, inspection and certification. NSF, in this context, should not be confused with the National Science Foundation.

NSF works with ANSI to accredit standards. NSF has developed over ninety assessment standards from food, supplements, wastewater treatment, drinking water treatment, and many more.



In addition to NSF and ANSI accreditation, there is a Canadian equivalent: Water Quality Association (WQA), Underwriters Lab (UL), and the Canadian Standards Associations (CSA) are accredited organizations that have equivalent standards to NSF/ANSI.

Record Keeping

Ensure the hypochlorite disinfectant shipping label information includes the following information.

- Certified company name.
- Facility location.
- Product name.
- Lot number or production identifier.
- Net weight or volume designation.

In addition to these five items, the certifying agency's mark and the Maximum Use Level (MUL) of the product (shown in the standard 60 listings) must appear on either the product label or one of the documents accompanying the shipment. For package shipments like totes or drums the NSF Mark and MUL may be included on an enclosed document on the product container.

Shipment documents come with the delivery of chemicals. You must keep these documents for at least three years (WAC 246-290-480(1)(g) and be able to produce them upon request.

More Disinfection Publications

Emergency Disinfection of Small Systems (331-242)

<u>Disinfection Byproducts: Chlorination of Drinking Water (331-251)</u>

Alternate Disinfectants (331-252)

Regulating disinfectants and dinffection byproducts (331-254)

Chlorine contact time for small water systems (331-343)

How to Handle Chlorine Gas Safely (331-364)

Chlorination Controls for Small Water Systems (331-398)

Find more resources on our <u>Publications and Forms webpage</u>.

For More Information

Contact our nearest regional office from 8 AM to 5 PM, Monday through Friday. If you have an afterhours emergency, call 877-481-4901.

Eastern Region 509-329-2100

Northwest Region 253-395-6750

Southwest Region 360-236-3030



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