

Residential Drinking Water Treatment Standards

NSF developed its first drinking water treatment standard in 1973. Today, we test to seven point-of-use/point-of-entry (POU/POE) drinking water treatment standards and have certified thousands of systems and components.

The NSF POU/POE standards address the wide array of drinking water treatment technologies on the market today, including adsorptive medias, ion exchange, reverse osmosis, ceramic filters, pleated filters, ultraviolet (UV), distillation, reduction-oxidation (redox), shower filters and more.

Each NSF standard sets thorough health requirements and performance criteria for specific types of products. Contaminant reduction claims can be certified under each standard and can vary according to each water treatment technology capability. Systems that utilize more than one treatment technology may be certified under multiple standards.



Reverse Osmosis (RO)

NSF/ANSI 58: Reverse Osmosis Drinking Water Treatment Systems

NSF/ANSI 58 establishes the minimum requirements for the certification of point-of-use (POU) reverse osmosis systems designed to reduce contaminants that may be present in public or private drinking water.

The scope of NSF/ANSI 58 includes material safety, structural integrity, total dissolved solids (TDS) reduction and other optional contaminant reduction claims. The most common optional claims addressed by NSF/ANSI 58 include cyst reduction, hexavalent and trivalent chromium reduction, arsenic reduction, nitrate/nitrite reduction, and cadmium and lead reduction.

NSF/ANSI 401: Emerging Compounds/Incidental Contaminants

NSF/ANSI 401 addresses the ability of a water treatment device to remove up to 15 individual contaminants (listed below), which have been identified in published studies as occurring in drinking water. While not a public health issue, the contaminants covered in NSF/ANSI 401 have been detected in drinking water supplies at trace levels and can affect some consumers' perception of drinking water quality.

Prescription Drugs

- Meprobamate: a compound found in anti-anxiety drugs.
- Phenytoin: an anti-epileptic drug.
- Atenolol: a beta blocker drug.
- Carbamazepine: an anti-convulsant and mood-stabilizing drug.
- Trimethoprim: an antibiotic medication.
- Estrone: a prescription birth control drug.

Over-the-Counter Medications

- Ibuprofen: an over-the-counter pain reliever and anti-inflammatory medication.
- Naproxen: an over-the-counter pain reliever and anti-inflammatory medication.

Herbicides and Pesticides

- DEET (N,N-Diethyl-meta-toluamide): a pesticide and common active ingredient in insect repellents.
- Metolachlor: an organic compound that is widely used as an herbicide.
- Linuron: an herbicide often used in the control of grasses and weeds.

Chemical Compounds

- TCEP (Tris(2-chloroethyl)phosphate): a chemical compound used as a flame retardant, plasticizer and viscosity regulator in various types of polymers including polyurethanes, polyester resins and polyacrylates.
- TCPP (Tris(1-chloro-2-propyl) phosphate): a chemical compound used as a flame retardant.
- BPA (Bisphenol A): a chemical compound used as a plasticizer.
- Nonyl phenol: a collection of compounds often used as a precursor to commercial detergents.