



## NSF/ANSI 61 & Fire Hydrants

Fire hydrants and components such as fittings and risers that are in contact with the potable water supply are covered under the scope of NSF/ANSI 61: *Drinking Water System Components – Health Effects*, and are required to be certified in most U.S. states and Canadian provinces and territories.

There has been some confusion on certification requirements as the U.S. Safe Drinking Water Act (SDWA) exempts fire hydrants from its lead-free content requirements, but NSF/ANSI 61 certification does require hydrants to comply with the contaminant leachate test for lead and all other contaminants.

This is important, as hydrants with high lead content could cause lead compliance problems for utilities. Using hydrants and components that are certified to NSF/ANSI 61 ensures the products will not contribute excessive levels of lead to the distribution system.

Fortunately, many manufacturers have fire hydrants as well as hydrant fittings and risers certified by NSF International to NSF/ANSI 61.

NSF/ANSI 61 requires analysis for any chemicals that leach from a material into drinking water and it requires a toxicological evaluation of chemical concentrations to ensure that they are below levels that may cause potential adverse human health effects. The toxicological evaluation criteria are based on lifetime exposure to the concentration of contaminants in drinking water.

NSF/ANSI 61 requires a complete formulation disclosure from product manufacturers and their component, material and ingredient suppliers. The standard requires a formulation review of all ingredients in each water contact material and development of tests to detect any chemical that may leach from water contact materials. The standard specifies formulated exposure waters of pH 5, 8 and 10. Products are exposed to the formulated waters for a 17-day period and samples are then analyzed for all potential chemical contaminants that were identified in the formulation review. The chemical analyses include broad-based scans for metallic and organic chemicals, which have the ability to identify trace quantities of contaminants or reaction by-products that may not be in the formulations of the materials.

Contaminant leachate concentrations detected in the laboratory tests are mathematically normalized to expected at-the-tap concentrations. These normalized concentrations are then compared to the pass/fail criteria in the standard.

The 2015 edition of NSF/ANSI 61 contains health effects criteria for over 1,000 drinking water contaminants.

All clients certified by NSF to NSF/ANSI 61 can be found on the [drinking water system components listings page](#).

