

Meeting Safety Expectations

Material safety testing ensures no contaminants leach into drinking water

By Amy Reichel

As a consumer, you expect the products you purchase to be safe. You expect the dishes on your dinner table to be safe for food service. You expect shampoos and soaps to clean your hair and skin without harming your body.

The same expectation applies to drinking water treatment systems and components. It is expected that water that comes in contact with a treatment system will improve in quality. A consumer would not buy a filter thinking that it could add contaminants to drinking water rather than remove them. That is where material safety testing and certification come into play. Manufacturers of drinking water treatment products can guarantee material safety through NSF/ANSI Standard 61 product testing and certification.

What Is NSF/ANSI Standard 61?

NSF/ANSI 61 is the standard used by the drinking water industry that focuses on a product's material safety. It tests and evaluates products that come in contact with drinking water and drinking water treatment chemicals to ensure that they do not leach harmful contaminants into water. The list of contaminants covered includes organic materials, pesticides, regulated metals, inorganic materials and radionuclides. This list can be found in the standard, along with the allowable limit of each contaminant.

The standard includes six sections describing the various product types it covers:

- Section 4: Pipe and related products (fittings,

couplings and hoses);

- Section 5: Barrier materials (coatings, paints, linings, liners, constituents of concrete and cement mortar);
- Section 6: Joining and sealing materials (gaskets, adhesives and lubricants);
- Section 7: Process media (activated carbon, ion exchange resin, gravel and sand);
- Section 8: Mechanical devices (chemical feeders, valves, meters and pumps); and
- Section 9: Mechanical plumbing devices (faucets, drinking fountains and supply stops).

Why Should You Consider Product Certification?

Most companies approach a product certification body due to customer requests, regulatory requirements or as a way to market their product against their competitors. Once a product has passed testing and becomes certified, it is listed on the certification body's website under the manufacturer's name. Certification listings are an ideal place for companies and consumers to find the certified products they need.

How Does a Product Become Certified?

If a manufacturer is interested in having its products certified to NSF/ANSI 61, it can contact any of the certification bodies approved to provide certification to that standard. The Water Quality Assn., UL, International Association of Plumbing and Mechanical Officials, Canadian Standards Assn. and NSF Intl. are the main certification bodies for the drinking



water treatment industry in North America.

A manufacturer starts by filling out forms for its chosen certification body. The certification body typically requires the manufacturer to complete a data sheet providing specific information on the product, including type, model name, size range and, if applicable, flow rate, water contact temperature and media density. A wetted parts list or formulation sheet for process media is needed as well. These forms tell the certification body exactly which company is responsible for supplying each part or ingredient used in the process media, what materials comprise the part or ingredient, and how large the surface area of the part or ingredient is.

The certification body uses these documents to perform a review of the product information. This review determines what is needed for testing, the exposure and analysis methods according to the standard, and the formal costs for the project. If the manufacturer decides to proceed, it submits the required test samples and testing begins. An auditor also contacts the manufacturer to set up an inspection at the manufacturing facility. Literature and packaging are reviewed as needed, ensuring that no false claims are made regarding the certification. Once the testing is complete, contaminant concentrations are evaluated, and, if everything passes, certification is granted and the product is listed as certified.

What Does NSF/ANSI 61 Testing Entail?

NSF/ANSI 61 requires an extraction test, meaning products are tested to determine that contaminants are not added to water after it comes in contact with the product. Products that have adsorptive or absorptive media must be tested with and without media. Test samples are exposed to the most severe conditions, determined during the review, for a specific amount of time immediately after washing or the appropriate conditioning of the product is completed. The extraction water is held in the product, or the product is placed in an exposure vessel filled with the appropriate amount of extraction water. The different sections for the varying product types require different testing specifications.

Whom Should Manufacturers Contact for NSF/ANSI 61 Certification?

As stated above, there are five main certification bodies that perform product testing and

certification for the drinking water industry. Manufacturers can go to any one of these certification bodies to learn more about the process.

Product safety is important no matter which industry a manufacturer is in. Fortunately, the drinking water industry has a means to verify a product's material safety through the NSF/ANSI

61 testing and certification process. Is it costly? Yes. Does it take time? It sure does. But is it worth it? Absolutely. **WQP**

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