

# Chlorinated Water Testing Under the EU Drinking Water Directive

Under the revised EU Drinking Water Directive (EU 2020/2184), chlorinated water testing is now mandatory for evaluating materials and products that come into contact with drinking water.

## Key requirements for chlorinated water testing under EU-MHR

### 1. Migration testing conditions

- Materials must undergo migration testing in **chlorinated water at 23°C ± 2°C**.
- Testing must also be performed in **non-chlorinated water** under relevant temperature conditions.

### 2. Purpose of chlorinated water testing

- Simulates **real-world conditions** in public water systems, where chlorine is widely used as a disinfectant.
- Assesses the **release of substances** from materials into drinking water and their **potential health risks**.

### 3. Additional analytical requirements

- **Gas Chromatography-Mass Spectrometry (GC-MS)** is required for both chlorinated and non-chlorinated water (cold water only), to identify non-intentionally added substances (NIAS).

### 4. Regulatory framework

- Requirements are detailed in Commission Implementing Decision (EU) 2024/368, supported by guidance from the European Chemicals Agency (ECHA)

## NSF expertise in chlorinated water testing for plastic pipes

NSF has been a leader in testing and certifying products that come into contact with chlorinated water—particularly plastic pipes. Because chlorine is widely used in the U.S. as a disinfectant for drinking water, we understand from experience how it can influence extraction testing and impact test results.

Since the development of NSF/ANSI 14 in 1965 and NSF/ANSI/CAN 61 in 1988, NSF has built extensive expertise in this area. Manufacturers can leverage this knowledge to ensure accurate testing, reliable certification, and compliance with both U.S. and EU requirements.

### [NSF/ANSI/CAN 61](#)

- Focuses on health effects of drinking water system components.
- Products undergo exposure testing with chlorinated water to ensure they do not leach harmful contaminants into the drinking water supply.
- Leachate testing includes analysis for a wide range of health-related contaminants, including metallic and organic compounds.

### [NSF/ANSI 14](#)

- Focuses on durability and performance of plastic piping systems.
- Requires chlorine resistance testing, especially for PEX, PE-RT, PE, and PP materials.
- Testing is conducted under accelerated conditions to simulate long-term exposure and evaluate oxidative resistance and expected service life

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## Health Effects Testing in Chlorinated Water

EU Drinking Water Directive vs. NSF/ANSI/CAN 61 for plastic pipes

Aspect	EU Drinking Water Directive	NSF/ANSI/CAN 61
Primary focus	Health safety and migration of substances	
Chlorine testing purpose	Assess migration / leaching of substances in chlorinated water	
Test type	Migration/leachate testing in chlorinated water	
Chlorine concentration	1.0 mg/L of available free chlorine	2 ± 0.5 mg/L free available chlorine
Temperature range	Fixed at 23 °C ± 2 °C	23–82 °C depending on end use
Certification goal	Health-based approval for potable water use	
NIAS testing	Mandatory via GC-MS screening	Not required
Regulatory enforcement	(EU) 2024/368 and 2024/370	State drinking water authorities

In the context of the minimum hygiene requirements (EU-MHR) under the EU DWD, working with a certification body experienced in chlorinated water testing provides manufacturers with a strategic advantage—ensuring accurate, qualified test results and supporting compliance with EU regulations.

## Accelerate your path to EU compliance

As a manufacturer, navigating the new EU Drinking Water Directive requirements can be complex—but NSF is here to help. With decades of experience in chlorinated water testing and product and material certification, we provide the technical expertise and regulatory insight needed to ensure your products meet EU standards.

**Partner with NSF to:**

- Pre-assess your products and materials against EU-MHR.
- Conduct chlorinated water migration testing.
- Strategize your certification pathway for EU market access.

Contact us today to learn how NSF can support your compliance strategy and testing needs.

