

## **PPI STATEMENT Y**

### **Taste and Odor of Drinking Water from Plastic Piping Systems**

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For over 70 years, the Plastics Pipe Institute (PPI) and our members have been dedicated to promoting the safe use of plastic piping systems by:

1. Contributing to development of standards and codes
2. Educating designers, installers, users, and regulators
3. Establishing forums for problem solving and new ideas
4. Maintaining liaisons with industry, education, and government bodies

In doing so, a commitment to health and safety has always been our highest priority. Working with third-party certifiers, PPI members demonstrate compliance with drinking water requirements and earn certifications showing that their materials and finished products satisfy the requirements of national and international health standards such as the Safe Drinking Water Act (SDWA) [www.epa.gov/sdwa](http://www.epa.gov/sdwa) and those of Health Canada.

Plastic piping systems have always been designed to provide safe and reliable supply of drinking water without the concerns sometimes present in metallic piping systems of corrosion, leakage, mineral build-up, release of metallic elements into drinking water, or any combination thereof, which may affect its taste and odor. Plastic piping systems are specified by engineers for their performance and are chosen by builders, plumbers, and homeowners for their reliability, safety, and customer satisfaction.

The taste and odor of drinking water conveyed through pipes have been studied in North America and Europe since the 1960s and there is no doubt that this science is both complex and subjective, relying upon the senses of human testers. Before the introduction of plastic plumbing systems in North America in the 1960s, copper tubing was a common indoor plumbing distribution material, replacing galvanized steel which was commonly used in the decades before. Copper pipes can affect the taste and odor of drinking water but many people who live in houses with copper plumbing become accustomed to the taste and odor of water delivered through this material. Therefore, a change to another plumbing material could change how homeowners perceive the taste and/or odor of drinking water.

Public water may be sourced from open reservoirs, lakes, or rivers (i.e., “surface water”) or underground wells (i.e., “ground water”), or combinations of both. Experts agree that water chemistry is highly complex and many natural environmental factors can affect the taste and odor of treated drinking water, regardless of which type of pipe is used to transport it. Water utilities go to great lengths to remove objectionable tastes and odors from municipal drinking water, even when such factors are harmless to human health. But sometimes, slight tastes or odors in drinking water are perceived, regardless of the type of water supply or plumbing material, be it metal or plastic.

To ensure the safety of drinking water, the plumbing industry is highly regulated within USA and Canada with systems of standards, codes, and third-party certifications which are extremely rigorous with regards to pipe materials and their ingredients, production controls, and finished products.

Related to drinking water safety, all water distribution pipe, tubing, and system components must comply with federal regulations. NSF/ANSI/CAN 61 *Drinking Water System Components - Health Effects* is the legally-recognized national standard in the United States and Canada for evaluating the human health effects of drinking water materials, components and devices, and ensuring that certified materials are safe for drinking water. Most plastic pipe, tubing, and system components must also comply with NSF/ANSI Standard 14 *Plastic Pipe System Components and Related Materials* which focuses on other aspects of performance and quality control.

Through these certification processes, the independent third-party certifiers know exactly what materials are used in each pipe or tubing formulation and the safety of these products is repeatedly verified through frequent monitoring which includes unannounced plant inspections, sampling and testing. More information about these NSF standards can be found at [www.nsf.org](http://www.nsf.org).

PPI members will continue to provide the public with safe and reliable drinking water systems through pipes and tubing produced from CPVC, HDPE, PEX, PEX-AL-PEX, PE-RT, PP-R and PP-RCT.

Please visit the PPI website [www.plasticpipe.org](http://www.plasticpipe.org) to obtain additional information on research, education, and training, and to link directly to our members’ websites.