Biofilm & Corrosion in Piping Systems Deteriorate Water Quality

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The U.S. Environmental Protection Agency (EPA, 2002) describes how biofilms can preferentially form at certain locations in piping networks, such as during low flow conditions or in dead legs. There, they gradually release bound contaminants back into drinking water. Source "Microbial growth in biofilms can lead to deterioration of water quality and produce poor taste and odor... Contaminants... can subsequently be released into flowing water." Source Source A study on the stability of drinking water distribution systems explains that corrosion products and microbes consume disinfectant residuals, release metals, and ultimately affect taste, color and odor. Source

Studies on Biofilm Formation & Microbes in DWDS: A scientific review of multiple studies from 2024 confirms: Pipe material and disinfection methods influence biofilm density & resistant bacterial strains (e.g., Legionella, Pseudomonas). Biofilm formation can promote corrosion. Source

Research in eastern Spain showed: 95 % of biomass in the pipe network exists as biofilm, including potentially pathogenic bacteria - despite chlorination. Changes in taste and odor are typical consequences. Sources

Metal Release & Resistance Development npj Clean Water (2025): In stagnant water, iron and aluminum influence increases turbidity, promotes biofilm growth, and can favor pathogens that take their chance when the body is weakened ("Salmonella", Pseudomonas). Antibiotic resistance genes also increase. Source

In steel and cast iron piping, it has been shown that biofilm structures contain antibiotic and metal resistance genes (ARGs, MRGs) - a potential health risk complex. Source

Corrosion + Biofilm = Quality Risks in Tap Water, Even If Source Water Is Tested at the Treatment Plant: - Corrosion products & metals enter the water, affecting taste & odor. - Disinfectant residuals decay, so water changes can go unnoticed. - Pathogenic bacteria & resistance genes thrive in biofilm niches.

The safest protection against all of this is provided by using a professional reverse osmosis filter.

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It's good.
to be truu.