

PHOSPHATE FACTS

What are phosphates?

Phosphates are Food and Drug Administration (FDA) approved and safely used everyday as an additive in many of your favorite foods and drinks.

What types of foods / beverages contain phosphates?

Phosphates are safely used in a variety of foods and drinks, including: cheese; cakes; cookies; breads; crackers; powdered foods; cured meat; breakfast cereals; dehydrated potatoes; butter; chocolates; and soft drinks. Only a small fraction of the phosphates in the American diet comes from additives. Most comes from meat and dairy products.

Are phosphates safe?

The FDA and the Center for Science in the Public Interest list phosphates as COMPLETELY SAFE.

Why would water utilities use phosphates?

Approximately 50 percent of water utilities nationwide safely use Phosphates to control internal pipe corrosion. Many water utilities have been safely using phosphates since the passage of the Environmental Protection Agency's (EPA) Lead and Copper Rule (1992) to reduce lead and copper levels in tap water.

Do other water utilities use phosphates?

Yes, approximately 50 percent of water utilities nationwide use some form of phosphate to control internal pipe corrosion – including: Rockville, MD; Fairfax, VA; and Carroll County, MD.

What type of phosphate will WSSC use to better protect copper pipes?

As a result of recent laboratory tests on several different corrosion inhibitors, including polyphosphate, orthophosphate and silicate, WSSC is following the advice of our two corrosion experts and will use orthophosphate in a bench scale laboratory test and a pinhole leak prevention pilot. In laboratory tests, orthophosphate was as effective as polyphosphate stopping copper pitting. Additionally, orthophosphate is associated with a lower risk for both temporary discolored water and temporary increase in copper pitting. The laboratory tests used copper pipe with active pinhole leaks from WSSC customers' homes and WSSC water with varying doses of the corrosion inhibitors.

How much phosphate will WSSC add during the water treatment process?

Dr. Marc Edwards, our corrosion and water quality expert from Virginia Tech, recommends we add approximately 1 milligram of orthophosphate per liter of water. Some sodas have approximately 500 milligrams per liter. EPA does its water-related health studies assuming people drink 2 liters of water per day. Research indicates people already consume 1,000 to 1,500 milligrams of phosphate per day in their diet. So, the amount we plan to add increases the average intake by 0.1 to 0.2 percent.

Are there potential drawbacks to using phosphates, what are they?

In Carroll County, they began using zinc orthophosphate to minimize pinhole leak activity and experienced a temporary increase in leak reports followed by a significant decrease in reports. This temporary increase in leaks was NOT observed in our laboratory tests using orthophosphate. We do know that using inhibitors will increase WSSC's water and wastewater treatment costs.

How will the use of phosphates impact wastewater treatment?

WSSC is required to remove phosphates from wastewater. As a result, we estimate it will cost approximate \$300,000 per year in wastewater treatment costs to remove orthophosphate.

What should I do if I get another pinhole leak after phosphates are used?

It's important to remember that, for various reasons, pinhole leaks have occurred since copper was first used. Regardless of potential methods that may be identified by WSSC to minimize these occurrences in our service area, pinhole leaks can reasonably be expected to continue in the future. As with any plumbing leak, call a licensed plumber to make necessary repairs.

Will the use of phosphates completely eliminate all copper pipe pinhole leaks?

No. While we firmly believe the use of orthophosphate will significantly reduce pinhole leak activity, pinhole leaks can be caused by numerous factors and have occurred since copper was first used. Regardless of potential methods that may be identified by WSSC to minimize these occurrences in our service area, pinhole leaks can reasonably be expected to continue in the future.

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