



AQUA MAG® BLENDED PHOSPHATE

Case Study

AQUA MAG® blended phosphate is an effective corrosion inhibitor and sequestrant for use in potable and industrial water systems. The product is a liquid concentrate of exceptional purity, clarity, and stability, utilizing a broad spectrum of phosphates for better sequestration and corrosion control.

BENEFITS OF AQUA MAG® BLENDED PHOSPHATE

- Inhibits corrosion of steel distribution system water lines, iron and galvanized piping, and lead and copper plumbing.
- Decreases iron tuberculation, which can extend the life of the distribution system.
- Inhibits lead and copper leaching, which results in lower lead and copper in the delivered potable water.
- Lessens the occurrence of microbial-influenced corrosion, providing longer system life.
- Controls iron and manganese, minimizing rusty and dirty water in the system.
- Reduces discoloration, staining, and mineral build-up, resulting in fewer customer complaints.
- Diminishes calcium scale deposits typically seen in hot water lines and heaters.
- Lowers chlorine demand and improves disinfection.
- Saves money by reducing corrosion and scale, lowering chlorine demand, and decreasing hydrant flushing, leaks, and failures.

PROPERTIES & CERTIFICATIONS

Description:	Clear homogenous liquid
Viscosity:	< 2 cps at 70° F
Solubility:	Totally soluble and freeze/thaw stable
NSF Maximum Feed Rate:	23 mg/L
Freezing Point:	< 38° F
Shelf Life:	(neat) 2 years
Specific Gravity:	1.37 ± 0.03
Total Phosphate:	34.5% ± 1.0%
pH (1% Solution):	>6.0
Ratio Ortho/Complex Polyphosphate:	30/70
UL, NSF/ANSI Standard:	60, Kosher approved
Conforms to 21CFR, Section 182 and 184 (USDA)	



Certified to NSF/ANSI/CAN 60

Certified



Kosher Pareve

CASE STUDY

PROBLEM: Heavy tuberculation build-up in distribution system reducing flows drastically and causing a high chlorine demand. Periodic dirty (red) water complaints from consumers and calcification of rapid sand filter beds.

PLANT OPERATION: Lime softening, pumping average 1.3 MGD, maximum 2.2 MGD. AQUA MAG was fed, without dilution, with a metering pump at a dosage of 1.3 mg/L as PO4 at a feed rate of 75 lbs (6.85 gal) of AQUA MAG per MGD of water.

WATER QUALITY: Finished water.

Iron (Fe)	1 ppm
Magnesium (Mg)	17 ppm
Silica (SiO2)	14 ppm
Manganese (Mn)	1 ppm
pH	8.35
Sulfates (SO4)	92 ppm
Alkalinity (M)	27 ppm
Total Hardness (TH)	125 ppm
Calcium (Ca)	22 ppm

RESULTS: Lowered complaints, less discolored water. Chlorine demand decreased 37%; electric pumping cost decreased 12%.

Filter backwash frequency decreased 5X+. Calcium deposits removed.

HYDRANT FLOW TESTS:

LOCATION	BEFORE (GPM)	AFTER 1 YEAR (GPM)	PIPE SIZE	% IMPROVED
430 E 4th St	291	412	4"	42%
912 E 4th St	168	412	4"	145%
225 E 11th St	444	605	6"	36%
207 E Park St	629	672	6"	7%
503 E Park St	168	412	4"	145%
101 E 3rd St	1062	1210	12"	14%
AVERAGE IMPROVEMENT				64.8%



COST SAVINGS AT A 7MGD SYSTEM

Reduced hydrant flushing at dead-ends, reduced rusty water complaints and resulted in a yearly savings of **\$40,000**.

	SAVINGS
• Reduced customer complaints	\$3,400
• Three fewer valves replaced per year	\$2,000
• Fifty hours saved in maintenance	\$1,300
• Water meter accuracy improved	\$16,000
• Pumping efficiency increased	\$1,300
• Main cleaning postponed	\$16,000
Initial Yearly Savings	\$40,000



SHIPPING

AQUA MAG® blended phosphate is packaged in 1, 5, 15, 30, 55, and 275 gallon containers and is available in bulk quantities from the manufacturing facility, local warehouses, and bulk terminals.

For dosage rates or answers to your technical questions, please call Carus LLC at (800) 435-6856.

CARUS VALUE ADDED

LABORATORY SUPPORT

Carus has technical assistance available to answer questions, evaluate treatment alternatives, and perform laboratory testing. Our laboratory capabilities include: consulting, treatability studies, feasibility studies, and analytical services.

FIELD SERVICES

As an integral part of our technical support, Carus provides extensive on-site treatment assistance. We offer full application services, including technical expertise, supervision, testing, and feed equipment design and installation in order to accomplish a successful evaluation and/or application.

CARUS

During its more than 100 year history, Carus' ongoing emphasis on research and development, technical support, and customer service has enabled the company to become the world leader in permanganate, manganese, oxidation, and base-metal catalyst technologies.



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 Driving Safety & Sustainability

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 Rev. 1/2025