



# AQUA MAG<sup>®</sup>

Blended Phosphate

AQUA MAG<sup>®</sup> 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<sup>®</sup> 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 levels in the delivered potable water.
- Minimizes 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.



Before application



After one year

## PROPERTIES AND CERTIFICATIONS



- Clear homogenous liquid
- Viscosity: < 2 cps at 70° F
- Totally soluble and freeze/thaw stable
- Freezing Point: < 38° F
- Shelf Life: 1 year at room temp.
- NSF Maximum Feed Rate: 23 mg/L
- Specific Gravity: 1.33-1.39
- Total Phosphate: 31.5-36.0%
- pH (1% solution): ≥ 5.9
- Weight: 11.1-11.6 lbs. per gallon
- ANSI/NSF Standard 60, Kosher approved
- Conforms to 21CFR, Section 182 and 184 (USDA)

**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 PO<sub>4</sub> at a feed rate of 75 lbs (6.85 gal) of AQUA MAG® per MGD of water.

**WATER QUALITY:** Finished water.

Iron (Fe).....	.01 ppm	Magnesium (Mg).....	17 ppm
Silica (SiO <sub>2</sub> ).....	14 ppm	Manganese (Mn).....	.01 ppm
pH.....	8.35	Sulfates (SO <sub>4</sub> ) <sup>2-</sup> .....	92 ppm
Alkalinity (M).....	27 ppm	Total Hardness .....	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 5 times. Calcium deposits removed.

**HYDRANT FLOW TESTS:**

<u>LOCATION</u>	<u>BEFORE (GPM)</u>	<u>AFTER ONE YEAR (GPM)</u>	<u>PIPE SIZE</u>	<u>% IMPROVED</u>
430 East Fourth Street	291	412	4"	42%
912 East Fourth Street	168	412	4"	145%
225 East Eleventh Street	444	605	6"	36%
207 Park Street	629	672	6"	7%
503 East Park Street	168	412	4"	145%
101 East Third Street	1062	1210	12"	14%
<b>AVERAGE IMPROVEMENT</b>				<b>65%</b>

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

	<u>Savings</u>
• 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
<b>Initial Yearly Savings</b>	<b>\$40,000</b>



Like fingerprints, no two drinking water supplies are the same. Let Carus Chemical Company solve your water quality problems by using computer modeling to select the most cost effective product, determine dosing requirements, and predict performance. AQUA MAG® blended phosphate is packaged in 1-, 5-, 15-, 30-, and 55-gallon containers and is also available in bulk quantities. The product is shipped in safety-sealed, food-grade containers or certified tankers. Each container is identified by a lot number. For dosage rates or answers to your technical questions, please call Carus Chemical Company (800) 435-6856.

The information contained herein is accurate to the best of our knowledge. However, data, safety standards and government regulations are subject to change; and the conditions of handling, use or misuse of the product are beyond our control. Carus Chemical Company makes no warranty, either express or implied, including any warranties of merchantability and fitness for a particular purpose. Carus also disclaims all liability for reliance on the completeness or confirming accuracy of any information included herein. Users should satisfy themselves that they are aware of all current data relevant to their particular uses.

