Technical Data Sheet

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2575 VERUS Blended Phosphates

Verus 2575

Aulick has developed phosphate blends to perform the basic functions of: **corrosion control, cleaning, and sequestration**. During the research and development of Verus 2575, Aulick kept in mind the need for the highest efficiency and effectiveness in order to utilize the lowest possible feed rate, which equates to lower chemical costs. Verus 2575 is also expected to control copper and lead at the tap to meet or exceed the DBP Rule for THM and HAA.

There are approximately 18 phosphates certified for use in drinking water. Within the possibilities available, there are two major types for potable water treatment; orthophosphates and polyphosphates. There are four orthophosphates; 1 liquid and 3 white powders. Polyphosphates are more complicated by subtypes; namely pyrophosphates and polyphosphates (which may be condensed or linear). Each component functions differently with respect to pH, solubility, thermal stability, color control, corrosion control, and reversion rate.

While phosphates function to clean and attack the corrosion problem, linear polyphosphates also exhibit the capability to sequester heavy and soft metal ions with a valance of +2, which includes iron, manganese, calcium, and magnesium. Sequestration of iron and manganese cations prevent color formation by binding the +2 cations to prevent their oxidation to colored cations. The binding of calcium and magnesium cations (sequestration) acts to soften the water, also improving water quality.

In order to inhibit the corrosion in metal pipes of the drinking water distribution network, the pipes must be clean. Therefore, old pipes must be cleaned to remove scale, tuberculation, and biofilm. Once clean, the phosphate will apply a protective coating to passivate the metal surface. Of course, new piping also requires treatment to inhibit the onset of corrosion. PVC pipes do not corrode, however, this process does foster the growth of biofilm. The proper phosphate blend will prevent biofilm formation that in addition causes an increase in chlorine demand in the distribution system. Care was taken during the development of Verus 2575 regarding its versatility with respect to pH. This is due to variation in pH of water during processing and independent of pH in different locations in the processing plant. Therefore, Verus Blended Phosphates are fully functional within the regulatory pH limits of 6.0 and 9.0.

NSF®

Verus

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Verus 2575 is designed to have temperature stability above 250°F. The issue of reversion of polyphosphates back to orthophosphates was taken into consideration by selection of phosphate components that exhibit the best chemical stability. In consideration of this aspect of product quality, one must know that chemical stability varies with water temperature, so selection should be made based upon the two opposing variables of sequestration capacity and molecular structure stability. Verus 2575 has maximized the molecular chain length of its phosphates without hindering the molecular structure stability.

Specifications

Components	100% U.S. manufactured
Appearance	Verus 2575 Dry - white powder, Verus 2575L - clear liquid
Odor	None
Density	11.4 lbs. per gallon
Specific Gravity	1.30 - 1.35 - Verus 2575L
Ortho/Poly Ratio	25/75
pH Operating Range	6-9
Solvency In Water	Infinite
Certification	NSF, Standard 60, Approved
Temp. Stability Range	-25°F to above 250°F
Scale/Corrosion Removal Range	varies with feed rate

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