LimeCure™ Frequently Asked Questions

What is LimeCure™?

It is a low molecular weight polyacrylic material.

Is the product NSF approved?

Yes, you can go to the web site for verification. LimeCure™25, LimeCure™40, LimeCure™50 and AS-9637 are all NSF certified.

How does it work?

LimeCure™gives the lime more surface area that allows it to do the job more efficiently. The lime particles are prevented from agglomerating into large particles. AS-9637 is made utilizing LimeCure™.

Will the product carryover in the clarifier?

The low end detection limit for the polymer is 0.2ppm (without concentration steps). In every application no polymer has ever been found in the treated water.

What is the expected concentration of clarifier outlet as a result of over-feed at maximum chemical feed rate vs minimum clarifier rate?

Based on previous client testing it appears that it would be less than 0.2ppm however this would depend on the equipment used to feed the product. The target feed rate of polymer to lime is 1% as $Ca(OH)_2$. If lime were fed at 100ppm, the maximum polymer concentration if 100% went with the water would be 1ppm. In various systems using LimeCure™, analyses has not been able to identify any concentrations over 20ppb which is the lower limit of the test.

What is the reaction with H_2 and Cl_2?

Zero reaction

What is the effect on demineralizer resin?

None. The polyacrylate will be removed by anion resin and will be regenerated off. One method to test for complexed polyacrylate is to pass it over a cation column. The PAA then passes thru with the water. This can then be captured by an anion resin and concentrated. We regularly run treated water samples thru our IC with no impact on the column life.

What is the expected concentration after demineralizer resin?

It will be much lower than whatever the Cl or SO_4 levels are in the effluent.

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What is the decomposition temperature in HRSG feedwater and resultant decomposition components?

We have used this product to treat house service boilers at various power plants for several years. These units operate at 1100 to 1600psig depending on plant and manufacturer and we have not seen any evidence of decomposition within that pressure range. Primary decomposition product would be carbon dioxide.

What are the potential cost savings?

We have reduced total lime tonnage by up to 50% when replacing hydrated lime and 25-40% when replacing competitor's slurry at other facilities in the area. Our slurry is currently made in Reserve LA at our facility. The slurry is double filtered to assure no grit or impurities are delivered. The product is delivered with a COA and the customer is only billed for the active $Ca(OH)_2$ that is delivered.

Can you show us an example of potential savings?

Current – 120,000 pounds/week (Assume $290/dry ton current cost) – $17,400/week
Expected Reduction – (Assume 30%) 84,000 pounds/week – $12,180/week (projected cost)
Savings Potential – $5,220/week – $271,440/year – Not including maintenance cost

What type of maintenance benefits can be expected?

Lime slurry feed lines, feed pumps and storage tank cleanings are eliminated;
Man hours for manual or chemical cleanings are eliminated.

Where has the product been used?

LimeCure™ was used for many years to make lime slurry on site for a large power plant. They used approximately 2000 tons of lime per year. The lime was used in parallel Infilco Degremont Densadeg units running at 3000gpm each. The effluent was used as cooling tower make up and feed to their boiler water makeup system. After using the polymer treated lime slurry, the silica removal rates improved, sludge production dropped, water clarity improved and water chemistry in the Densadegs was easier. Water chemistry of the boiler feedwater was not impacted at all. Cation conductivities across the cycle did not change. The polymer had no impact on the RO membranes in the pretreatment train either. The plant runs 2 each 625 MW combined cycle 2 x 1 power blocks. AS-9637 is currently used in numerous Refineries, Chemical Plants, Municipal Plants, and Sugar Plants. References can be provided.

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