alkali solutions

LimeCure 50 Frequently Asked Questions

- **What is LimeCure 50?**

  It is a low molecular weight polyacrylic material.

- **Is the product drinking water approved?**

  Yes LimeCure 50 complies with BS EN 15039:2014 Chemicals used for treatment of water intended of human consumption.

  It is also NSF approved - you can go to the NSF web site for verification and search for Applied Specialties under this link and LimeCure 50 will be listed as being approved as a drinking water chemical.

- **How does it work?**

  LimeCure 50 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.

- **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 current customer results it would be less than 0.2 ppm in the clarifier water.

  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.

- **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 through with the water. This can then be captured by an anion resin and

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concentrated. We regularly run treated water samples through our IC with no impact on the column life.

- **What are the potential cost savings?**

  We have reduced total lime tonnage by up to 40% when replacing hydrated lime and 25-40% when replacing competitor's slurry at other facilities in the area.

  The additive can also be used in conjunction with oxide making further savings over the use of hydrate when hydrate is being slurried.

- **Can you show us an example of potential savings**?

  If hydrate is being slurried then a reduction in usage of 30% can be added to the reduced costs associated with using oxide. Slurried oxide will save 40% on hydrate as it is lower cost and has a higher CaO content. Once the costs of the additive are included then the net saving is around 40% if converting from slurried hydrate to oxide plus additive.

- **What type of maintenance benefits can be expected?**

  Feed Line-Feed Pump-Tank cleanings eliminated; Man hours for cleaning.

- **Where has the product been used**?

  LimeCure 50 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 pre-treatment train either. The plant runs 2 each 625 MW combined cycle 2 x1 power blocks.

  Similar results have been demonstrated in drinking water plants.

For more information:
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