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POL-E-Z® Liquid Flocculants
Water Clarification Made Easy

Essential Expertise in Water Management

Easy Has Always Been Better.

Now Better Has Been Made Easy!

INTRODUCING NEW POL-E-Z Liquid Flocculants

One of the key elements needed to successfully run a coal preparation plant is properly managing water supplies and maximizing water recycle and limiting carbonaceous solids disposal. Most operations use thickeners followed by either twin belt press filters or pond/dewatering cells. Flocculants and coagulants are typically required to remove solids and produce required settling rates to permit clean recycle water that is needed for the continuous cleaning of fine coal. These products are also used to optimize the underflow density in the thickener and percent cake solids on dewatering filters. Flocculants are key to any water management regimen and are available in liquid or powder form. While powders can appear to be less expensive, their use can often involve significant additional and largely hidden costs and hazards. Liquids can help the environmentally responsible operator avoid these issues.

Storage and Handling

Liquid flocculants are generally stored and handled in easy-to-use "hands-off" systems that promote safety, virtually eliminate dust inhalation hazards inherent with powder flocculants, reduce labor costs and generally improve the working environment.



Typical liquid or "latex" flocculants must be periodically agitated or mixed in the storage tank to re-suspend the polymer particles in the oil carrier to maintain a consistent product. Inadequate mixing may result in product separation, stratification and poor or no performance as the tank level is drawn down. Excessive or aggressive mixing can shear the polymer chains, breaking down the molecular weight and leading to diminished performance. New POL-E-Z flocculants are stable in storage for up to six months. They require very little tank or tote recirculation to remain uniform and stable over long periods of time.

Figure 1 – As this photo illustrates, after a year in storage, note the dramatic contrast in oil solvent separation characteristics between the conventional liquid flocculant on the left, and new POL-E-Z flocculant on the right.

Rapid Product Activation

Comparing flocculants in their liquid or powder forms results in interesting observations as well as potentially costly powder characteristics. Typical liquid flocculants enjoy the advantage of requiring only about 30 minutes of aging time to become fully activated and ready to use.

This compares with two to four hours of aging time for powder flocculants. POL-E-Z flocculant based solutions are ready to use with minimal mixing and aging time. This results in more complete realization of product performance potential.

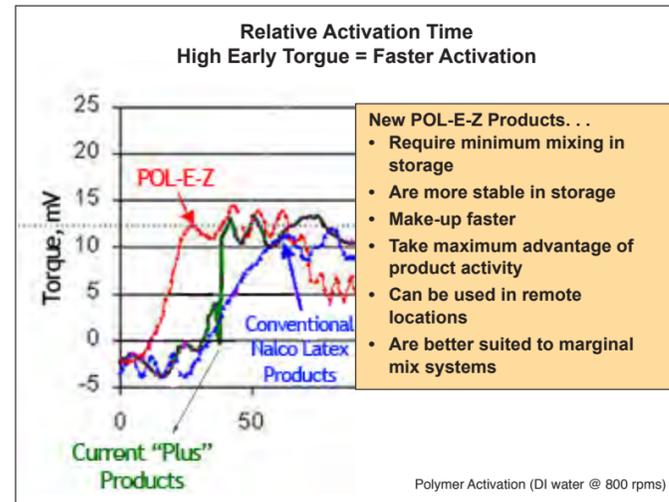


Figure 2 – POL-E-Z flocculant based products are more rapidly mixed into a useable form, enabling users to take better advantage of the activity of flocculant more quickly while avoiding additional expense for more complicated mixing and aging equipment.

Low Moistures Without the Filter Press; Paste Thickening Without the Paste Thickener

This rapid activation characteristic can be particularly advantageous for applications in remote areas such as the treatment of the thickener underflow as it is deposited into refuse slurry cells. Simplified product make-up and storage systems are all that is required to treat the coal refuse slurry immediately before it discharges into the slurry cell. This feature reduces the amount of costly equipment needed to properly treat the slurry and improves the efficiency of the dewatering cell without the capital cost and operating headaches of a twin belt filter press or a paste/deep cone thickener. This treatment approach often costs about the same as the cost for either a belt filter or a paste thickener when capital costs are taken into consideration. Figures 3 and 4 illustrate the key benefit.



Figure 3 – Slurry cell being filled with waste thickener underflow after OreBind Program treatment.



Figure 4 – Adjacent treated Slurry cell after three (3) weeks.

	New POL-E-Z Flocculants	Typical Liquid Flocculants	Powder Flocculants
Settling Stable during Storage	Excellent	Fair	N/A
Ease of Solution Preparation	Excellent	Good – Fair	Fair - Poor
Ease Of Delivery & On Site Handling	Excellent	Excellent	Difficult
Safety – Dust Exposure Hazard	Not Applicable	Not Applicable	Significant
Safety – Lifting Hazard	Not Applicable	Not Applicable	Significant
Ease of Use in Remote Applications	Excellent	Fair	Difficult

POL-E-Z Flocculant Applications:

- Thickeners
- Twin Belt Filter Presses
- OreBind® Mud Stacking / Paste Thickening / Dewatering for slurry cells and tailings ponds

Benefits of POL-E-Z Liquid Flocculants

- POL-E-Z flocculants are settling stable in storage. This minimizes the amount of product mixing required during storage to keep the product uniform.
- Quicker product activation compared to standard liquid and powder flocculants.
- Better suited for remote applications. Requires a simpler feed and storage system.
- Reduces the need for tank cleanouts because the product is stable.

Your Nalco Sales Engineer - Providing Superior Results

Knowing how to use a product is easily as important as the choice of product itself. Your Nalco sales engineer will work with you to evaluate your current operation and determine the best means for optimization. Technology, Experience, On-Site Consulting and Support Resources will all be provided to help you improve your bottom line efficiency, productivity, and Total Cost of Operation to achieve superior results.



Essential Expertise in Water Management