



PYM-PDS-NA-Drewfloc 422-R1

## Drewfloc™ 422 polymer

### Product Description

Drewfloc™ 422 polymer is a cationic dry polyacrylamide that is used as a flocculant or coagulant aid in a wide variety of industrial, pulp and paper and municipal wastewater treatment applications. This product has been successfully applied in liquid/solids separation systems such as clarification, flotation, thickening and dewatering. In gravity clarifiers and thickeners, Drewfloc 422 quickly forms large flocs that exhibit rapid settling and dense sludge blankets with clear supernatant and low suspended solids in the effluent water. In flotation systems, Drewfloc 422 yields strong flocs that can withstand intense hydraulic shear in order to produce compact sludge skimmings and effluent water low in suspended solids. In thickening and dewatering applications, Drewfloc 422 yields large and strong flocs that exhibit rapid separation of free water and produces sludge cakes with high solids content.

### Storage and Handling

Suggested in-plant storage is 2 years in unopened bags and rotation of stock is highly recommended. Drewfloc 422 should be stored in a dry location since the product is hygroscopic and will absorb humidity from the atmosphere. For that reason, keep opened bags covered to prevent caking. Optimum storage temperature is between 40-105 °F (5-40 °C).

### Preparation and Feeding

Drewfloc 422 cannot be fed into an application without pre-diluting in water. The recommended concentration range is 0.1-0.5% with 0.25% being optimum. Although the product is completely water soluble, certain precautions should be followed to obtain total dissolution with minimum loss of activity. Complete wetting of the individual polymer is the single most important factor in the preparation of dry polymer solutions. One method to achieve good wetting is to use an aspirator type disperser that draws the solid particles into a water stream using vacuum created by water pressure. A water pressure of 30 psig or greater is necessary to implement this method. The wetted polymer from the aspirator should be discharged into a

vessel equipped with a high torque mixer capable of stirring the entire tank at 250-400 rpm. If the entire tank is not being stirred at 400 rpm, try a lower concentration of polymer. If mixing is still inadequate, add larger impellers (or more impellers) to the mixing shaft and increase the horsepower of the mixer, if necessary. Do not increase the mixing speed beyond 400 rpm or shearing of the polymer could occur. Best practice is to mix the polymer solution at 400 rpm for 30-90 minutes or until dissolution is complete.

There are a number of commercially available automatic feed systems that use an auger to sift the dry polymer into the dilution water stream. The best units of this type feature two separate tanks; one for mixing and one as a day tank for finished polymer solution. The size of the day tank should be such that the dilute Drewfloc 422 is consumed within 24 hours. Many applications require a concentration much lower than 0.25% polymer. In that case, it is best to add secondary dilution water through a tee and a static mixer on the way to the application.

### Feed Points

The selection of feed points is a critical element in maximizing the performance of flocculants in liquid/solids separation systems. Flocculants like Drewfloc 422 work by creating molecular bridges between microscopic particles thereby bringing them together into larger flocs. These polymer bridges are formed by relatively slow mixing and can be broken apart by excessive mixing. In general, flocculants should be added at a point in the system closer to where the actual separation is taking place to avoid shearing effects. Your Solenis representative will survey the system to determine proper feed points for all chemicals being used.

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## Materials of Construction

For solutions of Drewfloc 422, cross-linked polyethylene, fiberglass, stainless steel or epoxy lined steel are the preferred materials of construction for mixing and day tanks. Unlined mild steel, black iron, galvanized steel, aluminum, magnesium, copper or brass are not recommended in any part of the feed system. Stainless steel, Viton\* or Teflon\* are the best choices for pump heads. For feed lines, use PVC, stainless steel or reinforced Tygon\* tubing.

## Packaging

This product is available in a variety of packaging sizes. Your Solenis representative will recommend the appropriate packaging for the application.

## Important Information

**Typical Properties:** Refer to the Safety Data Sheet (SDS).

**Regulatory Information:** Refer to the SDS or contact your sales representative for any additional regulatory and environmental information.

**Safety:** Solenis maintains an SDS for all of its products. Use the health and safety information contained in the SDS to develop appropriate product handling procedures to protect your employees and customers.

Our SDS should be read and understood by all of your supervisory personnel and employees before using Solenis products in your facilities.