

## **VTA Polymers VTA FA010 , FA020, FA030** **Anionic solid flocculants**

VTA FA010, FA020 and FA030 are low to medium charged polyacrylamide based anionic flocculants. They work effectively in numerous processes in the mining industry, potable water treatment and in industrial influent and effluent treatment. The range of available anionic charge ensures for each individual application a suitable product.

### **Advantages**

#### **Performance**

- Fast settling rates
- Work over wide pH range
- High supernatant clarities
- Effective at low dosage rates

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#### **Convenient**

- Easily soluble despite high molecular weight
- Extended shelf life
- Solid product reduces storage requirement

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#### **Principle uses**

- VTA FA010, FA020 and FA030 can be used to improve settlement rates of particles in water treatment solids separation in:
- Potable water
- Industrial influent/effluent (steel industry, oil refineries, mining industry, paper industry, food industry, process water, power plants)

### **Environmental properties**

VTA FA010, FA020 and FA030 are considered to be non toxic under normal conditions exhibiting LD<sub>50</sub> values of > 10 g/kg for rabbits.

BOD<sub>5</sub>: approx. 10 mg/g

COD: approx. 900 mg/g

### **Treatment levels**

Clarification of turbid liquids: 0,1 – 5 g/m<sup>3</sup>

Thickening of sludge: 2 – 50 g/t solid

Filtration aid for pressure

and vacuum filter: 50 – 500 g/t solid

Dewatering aid for

centrifuges: 0,55 – 3 kg/t solid

### **Stock solution preparation**

To obtain homogenous solutions, efficient dispersion is necessary. The most convenient methods of dispersing these products are with a commercially available dry powder feeder unit. Solutions should be made up at 0,5 % solids. Make-up water temperature should be between 10° and 40° C for optimum product performance.

After dispersion of the polymer in agitated water, stirring should continue for one hour to ensure complete dissolution. Stirring should be carried out by a propeller type stirrer with a speed of 200 -500 rpm.

The stirrer should be of adequate size to provide good agitation in all parts of the dissolution tank. It is recommended, to have both: a stock make-up tank and a solution holding tank for dosage into the system.

Aluminium, zinc or iron should be avoided in make-up systems.

## Typical properties

| Product   | Shelf life | Solution viscosities [mPa's]<br>(Brookfield, 25° C, 60 rpm) |                  | Bulk density<br>[kg/m³] | Anionic charge<br>density |
|-----------|------------|-------------------------------------------------------------|------------------|-------------------------|---------------------------|
|           |            | 0.1 %<br>[mPa's]                                            | 0.5 %<br>[mPa's] |                         |                           |
| VTA FA010 | 12 months  | 100                                                         | 500              | 750 ± 50                | -                         |
| VTA FA020 | 12 months  | 150                                                         | 700              | 800 ± 50                | --                        |
| VTA FA030 | 12 months  | 150                                                         | 800              | 800 ± 50                | ---                       |

### Application

For optimum results polymer should be added as a dilute solution of 0.05 – 0.2 %. Polymer should be added at a point of turbulence in the system to ensure adequate mixing, followed by less turbulent conditions to allow floc build up. Multiple point flocculant addition will result in more efficient performance.

In line dilution prior to application should be via a static mixer.

Centrifugal pumps should be avoided for polymer transfer, screw pumps are functional.

### Handling

The products offer no health hazard under reasonable conditions of industrial handling. Spilled polymer and solution is slippery and should be scooped up before washing down with water.

### Shelf life solutions

Solutions with 0.5% active substance are fully effective for approx. 3 days. Solutions with 0.1 % polymer should be prepared freshly every day.

### Packaging

VTA FA010, FA020 and FA030 are available in 25 kg plastic sacks or in Big Bags with 500 kg.

Extension PWG: Potable water grade

Unsere Angaben zur Anwendung beruhen auf Laborversuche und Praxiserfahrungen. Sie sollen unsere Kunden nach bestem Wissen beraten, jedoch können wir wegen der Vielseitigkeit der jeweiligen Anwendungen und Arbeitsweisen weder Verbindlichkeiten noch Haftungen übernehmen. Sie sollen lediglich als Grundlage für Ihre Überlegungen, Nachforschungen und Prüfungen dienen. Feststellungen und Anregungen unsererseits bezüglich des möglichen Einsatzes unserer Produkte erfolgen ohne Gewähr.