ECOTAN SERIES

Natural Based Coagulants

Servyeco

Results and examples

Fruits, Textile, Slaughterhouses.

Dairy, Species, PWTP.

Ice Cream, Paper & Cardboard, WWTP.

In general, ECOTAN series are efficient on both sedimentation and flotation systems. However, when oil and fat content is very high, effectiveness on flotation systems is experimentally demonstrated. On the other hand, ECOTAN series do not modify conductivity of treated water. For that reason, these products are also highly recommended for recirculation water systems, where ions concentration could be increased during time.

Potential customers are focused on Drinking Water Treatment Plants and Wastewater Treatment Plants (Urban and Industrial) coming from different sectors like Automotive, Metallurgy, Paint, Glass, Ceramics, Frits and Glazes, Sanitary, Chemical, Petrochemical, Pharmaceutical and Food Industry (slaughterhouses, preparation of meat products, fish farms, preserves, dairy industry derived, ice cream, beverages, food washing), among others.

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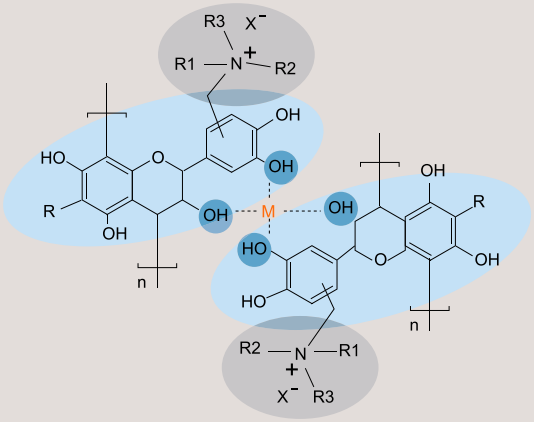
Background

- Natural organic polymer with cationic character.
- Extract from the bark of Black Acacia (Acácia mearnsii de wild).
- Coagulating action treating colloidal systems, neutralizing the charges and bringing together the particles in suspension.
- Do not affect the pH of the system and has an effective range of 4.5 to 9.0.
- Do not consume the alkalinity of the medium. Its coagulant efficiency is always optimal because does not suffer hydrolysis in solution.
- Vegetable-based organic polymer with cationic character, used as coagulant for drinking water and wastewater treatment, including industrial and urban plants.
- Alternative product against currently used inorganic coagulants like Ferric Chloride, Polyaluminum Chloride or Aluminum Sulphate.
- Dewatering properties for specific sludges treated in filter press, substituting inorganic products like Ferric Chloride.

PRODUCTS	ECOTAN BIO 180D	ECOTAN BIO 100	ECOTAN BIO 200	ECOTAN BIO GS	ECOTAN BIO GP
ASPECT	BROWN LIQUID	BROWN LIQUID	BROWN LIQUID	BROWN SOLID	BROWN SOLID
DENSITY	1,06 - 1,12	1,07 - 1,17	1,06 - 1,12	-	-
VISCOSITY	1 - 100	1 - 100	1 - 100	1 - 100 (25%)	1 - 100 (25%)
PH	2,1- 2,9	2,1- 2,9	2,1- 2,9	2,1- 2,9	2,1- 2,9
CATIONICITY	MEDIUM	HIGH	VERY HIGH	HIGH	HIGH



Advantages vs Inorganic Coagulants

- Improved coagulant efficiency, **reducing the dosage and cost** per cubic meter of treated water.
- It does not consume the **alkalinity** of the medium. Its **coagulant efficiency is always optimal** because does not suffer hydrolysis in solution.
- It does **not modify the pH** of the water system and, additionally, presents very high efficiency through a wide range of pH, between **4.5 and 9.0**.
- Eliminates or reduces almost completely the use of **alkalizing agents** such as sodium or calcium hydroxide.
- Provides a **rapid flocculation and decantation**. Eliminates or greatly reduces flocculants consumption.
- **Protects against corrosion** of metallic parts, not increasing the conductivity and helping the water recycle.
- It is an organic based polymer, environmentally friendly, **non corrosive or toxic**, improving biological processes.
- By not providing toxic elements, **enhances sludge dewatering and reuse**.
- Metallic ions like **Iron, Manganese or Aluminum** could be also separated by complexation during coagulation.

Study Cases. Beverage sector - ECOTAN BIO 100

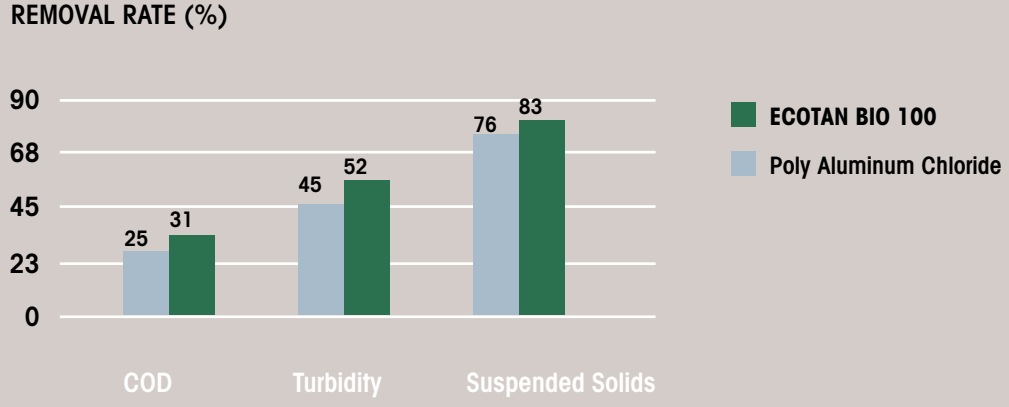
Treatment: Physical-Chemical, Settling Coagulant: Poly Aluminum Chloride					
PARAMETER	**0**	**1**	**Reduction Rate**	**2**	**Reduction Rate**
pH (u pH)	7,0	7,4	-	7,3	-
Conductivity 20 ºC (µS/cm)	2270	2590	-	2300	-
Chemical Oxygen Demand (COD) (mg O_2/l)	759	569	25 %	524	31 %
Turbidity (NTU)	480	264	45 %	223	52 %
Suspended Solids (mg/l)	116	28	76 %	20	83 %

Coagulant
1.- 350 ppm
Poly Aluminum Chloride
2.- 100 ppm
ECOTAN BIO 100

pH Adjust
1.- 150 ppm
Sodium Hydroxide
2.- 0 ppm

Flocculant
1.- 2 ppm
ECOPOL CS 620
2.- 1 ppm
ECOPOL CS 620

- When using ECOTAN BIO 100 as coagulant, neutralizing agent was avoided. For this reason, conductivity was minimized from two different points: not using agents for pH adjustment and substituting inorganic coagulant.
- The amount of coagulant dosed is reduced down to **43%.**
- The values of suspended solids, COD and turbidity are drastically reduced, even with lower dosage of natural based coagulants.



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