

# **SUFLOC FLOCCULANT (POLYELECTROLYTES)**

## **SOLID/ LIQUID SEPARATION AID**

**SUFLOC FLOCCULANTS** are water-soluble homopolymers and /or copolymers with low to high molecular weights. They comprise predominantly of Sodium Salt of Polyacrylic Acid and /or Polyacrylamide. These polymers have been extensively used as flocculants due to their excellent flocculation effect in small amounts. The flocculants are used to increase the state of aggregation of suspended solid particles and thereby facilitate the separation of solid constituents from liquid by process such as sedimentation, filtration, flotation and centrifugation.

**SUFLOC FLOCCULANTS** can be used alone or in combination with inorganic primary coagulants like Alum, Lime, Iron Salt etc. exhibit exceptional flocculation ability in a variety of solid-liquid separation systems. They operate with significant efficiency in solutions of widely varying pH or chemical content or temperature.

### **SELECTION OF FLOCCULANT**

An efficient flocculant testing programme is essential for the successful treatment of any suspension so that the most efficient flocculant at the lowest possible cost will be available. Using a simple, straightforward laboratory method, the full range of **SUFLOC FLOCCULANTS** can be surveyed in a jar-test evaluation (clarification tests). If necessary, these clarification tests can be supplemented by thickening and filtration tests.

### **PROPERTIES**

**SUFLOC FLOCCULANTS** are available in Emulsion and powder forms of anionic, nonionic or cationic nature having varying molecular weight.

### **SPECIFICATIONS**

	<b>POWDER</b>	<b>EMULSION</b>
Appearance	Free flowing amorphous	Thick liquid
Odour	Odourless	Aromatic odour.
Colour	White	Whitish
Ionic Nature	Nonionic to strongly Anionic or Cationic	Nonionic to strongly anionic or Cationic.
Shelf Life (Under normal storage conditions)	More than 2 years.	12-15 months.
pH of 0.1% Solution	Neutral	Neutral.

## **MECHANISM OF ACTION**

The coiled structure of these straight chain polymers straightens out on their addition of water, resulting in the formation of viscous to highly viscous solution, depending upon their nature, charge density on chain length and molecular weight. This solution, when added to the suspension, instantly induces **FLOCCULATION BY BRIDGING MECHANISM**.

## **DOSAGE**

The optimum effective flocculant dose largely depends on the solid content and nature of the slurry. Normally, the optimum dose of **SUFLOC FLOCCULANTS** is in the range of 0.1 to 5.0 ppm of powder or 1 to 2 ppm of emulsion.

Again, it is stressed that, for maximum efficiency and economy, the flocculants should be added as very dilute solutions, in staged amounts, to the location where the suspended solids will be thoroughly mixed with the flocculants. Intense agitation must be avoided.

Excessive addition of flocculants can produce lower settling rates, poorer flocculation, poorer clarity, and lower efficiency. Dosage rates are usually lower than those determined in the laboratory.

## **SAFETY AND HANDLING**

**SUFLOC FLOCCULANTS** are non-toxic, but care should be taken to avoid inhalation and ingestion. In case of irritation at any contact part, flush it with large volumes of water and medical advice should be taken. Spillage should be handled in a dry state whenever possible as the wet state or solution provides an extremely slippery surface. The addition of salt or sand and their removal in the dry state is recommended before washing the surface. Gloves are recommended particularly for handling jelly.

## **STORAGE CONDITION**

**SUFLOC FLOCCULANTS** should be stored in airtight containers to avoid any contamination of moisture.

## **PACKING**

Powder: 25 Kg.

Emulsion: 25/ 50 Kgs. HDPE Drums

## **APPLICATIONS**

**SUFLOC FLOCCULANTS** are tailored specifically to bring dramatic effectiveness in minute quantities in virtually all solid-liquid separation units and because of their versatility and adaptability in different systems or processes, they are used in many industries. Some of the important applications are:

1. **SUGAR INDUSTRIES** : For purification of sugar cane juice.
2. **PAPER & PULP INDUSTRIES** : For fibre recovery from waste, to improve retention of fibre and additives on machine, for better mud and lime settling in bleach plant and for water treatment.
3. **ALUM & ALUMINIUM SULPHATE INDUSTRIES** : For the flocculation of undigested bauxite.
4. **PHOPHORIC ACID INDUSTRIES** : For the flocculation of unreacted phosphate ore.
5. **MAGNESIUM SALT MANUFACTURING INDUSTRIES** : Washing the purification of the Magnesium
6. **BORAX & BORIC ACID** : For settling and filtration of Calcium Sulphate obtained after the treatment of Colenaite.
7. **ASBESTOS INDUSTRIES** : To improve the wet web strength and better retention of cement and asbestos.
8. **PETROLEUM INDUSTRIES** : For demulsification, flotation and clarification of effluents.
9. **IRON ORE** : For ore dressing and clarification of effluents.
10. **ROCK PHOSPHATE** : For ore dressing and clarification of effluents.

11. **COPPER AND ZINC ORE** : For ore dressing and clarification of effluents.
12. **COAL MINING** : For the recovery of coal fines or clarification of water and effluents.
13. **BOILER / LIME WATER TREATMENTS PLANTS** : For flocculation of suspended solids.
14. **PAINTS & PIGMENTS** : For flocculation of suspended solids.
15. **INDUSTRIAL SEWAGE AND WASTE WATER TREATMENT PLANTS.** : For better sedimentation, filtration and clarification.
16. **OIL AND NATURAL GAS UNITS** : For drilling purpose

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