

PolyFloc* flocculants

high molecular weight clarification and dewatering polymers

- Cost-effective Liquids and Powders
- Wide portfolio of clarification and dewatering aids (flocculants)
- NPE-free products
- Range of molecular weights and charge (anionic, non-ionic and cationic)

description and use

PolyFloc products are high molecular weight water-soluble polymers. They are designed to function in a variety of industrial water and wastewater treatment applications. Depending on customer preference they are available in concentrated powder form, cost-effective emulsion liquids and convenient, easy-to-feed liquid solutions.

In solids separation treatment programs, polymers are used as “coagulants” for charge-neutralization of colloidal particles, and as “flocculants” for agglomeration of particles into larger particles or “floc”. SUEZ’s KlarAid* product line encompasses the coagulants. The PolyFloc product line are flocculants designed to bridge small particles together, enhancing floc formation. This increases settling velocity in clarification, or rise-rate in flotation applications, and improves water drainage in thickening and dewatering applications.

products and services offered

The PolyFloc product line encompasses a comprehensive portfolio of charge type, ranging from low to high anionic or cationic charge, thereby allowing SUEZ to provide products for both raw and wastewater clarification, flotation enhancement and sludge conditioning (for thickening and dewatering).

The PolyFloc AE products are anionic emulsion liquids; AP products are anionic powders and AS products are the convenient solution liquids. Similarly, the CE products are cationic emulsion liquids and the CP products are cationic powders.

PolyFloc products are provided as part of a comprehensive treatment program by highly technical field personnel who evaluate each customer’s specific application needs and treatment objectives, before selecting the optimum product for that situation. Typically, on-site testing is performed to ensure a cost-effective solution is chosen.

A PolyFloc product is applied as part of a comprehensive package of products, operational recommendations and modern monitoring to ensure an effective overall solution for the customer.

application and treatment

Proper application and treatment levels depend on many factors and flocculant applications are specifically designed for each application and for each individual facility’s needs. However, there are some common requirements as described next.

Apart from the solution products, the emulsion and powder products need to be dissolved in water before use. Emulsion liquids have to be “inverted” from the oil-phase to the water phase in a batch mix-tank or continuous “make-down” system. Typically the product is added to water with an appropriate amount of mixing, to obtain a solution strength of 0.25- 0.5% product in water. Continuous-feed equipment is available from SUEZ to automate this process.

Powder products are either manually batched in a mix-tank, or automated feed systems are available for larger applications. Recommended solution strength is often in the same range as emulsion products, but

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regardless of product, SUEZ field representatives will provide “make-down” recommendations tailored to each application. More details are also provided in the individual product fact sheets.

Diluted product may be fed by a pump or by gravity flow to a point where good mixing, but not violent agitation, with the waste stream occurs. Sludge thickening and dewatering applications require careful engineering of feed systems and will be optimized for each location by SUEZ field engineers. Typically, flocculant applications require careful consideration of mixing conditions.

Storage, Handling and Safety instructions are provided with every product in the form of written recommendations and detailed MSDS.

solution benefits

SUEZ’s PolyFloc products, used together with an in-depth system audit, engineered application and operational recommendations will provide one or more of the following benefits:

- Cost-effective clarification and flotation operations for improved effluent quality
- Cost-effective thickening and dewatering applications for increased sludge solids content (minimal water content)
- ISO certified quality products
- SUEZ technical expertise in optimizing operation of process unit
- SUEZ assistance in monitoring performance of process unit
- Meeting environmental regulations reliably
- Compliance with all Health and Safety requirements with SUEZ support and documentation
- Ability to adapt to changing water, wastewater and sludge quality, due to access to wide portfolio of SUEZ products. SUEZ on-site service will provide product selection and operational advice as needed.
- Delivery and Billing options to meet almost any customer need.