SUPERFLOC® flocculants

Dry Polyacrylamide (PAM), anionic: A-100 Series

(A-100, A-100HMW, A-110, A-110HMW, A-120LMW, A-120, A-120HMW)

The A-100 series of dry PAM anionic SUPERFLOC flocculants of differing molecular weights and charges work effectively as coagulant aids or sludge conditioning agents in liquid-solid separation processes in a wide variety of industries. The chemistry range available ensures there is a product suitable for each individual application.

Advantages

- Economical to use — effective at very low dosage levels
- Work over a wide pH range; do not alter the system pH
- Eliminate or reduce use of inorganic salts
- Fast settling rates
- Achieve high solids removal efficiencies
- Easily soluble in water
- Extended shelf life
- Dry product minimizes storage requirement

Principal Uses

SUPERFLOC dry PAM anionic flocculants are recommended for the following liquid-solid separation processes:

- Mechanical dewatering — treating inorganic sludges for increased throughput, solids recovery, and effluent quality
- Gravity settling — improves floc formation for faster settling rates, increased sludge compaction, and improved water quality
- Coagulant aid — settling aid with inorganic and organic coagulants
- Water clarification — improves influent, process and effluent water quality by reducing suspended solids and turbidity
- Dissolved air flotation — result in clearer underflows and greater throughput
- Filtration — improve filtered water quality and plant throughput
- Phosphate removal in wastewater treatment

The above are the primary applications for these products. These products may be beneficial in any liquid-solid separation process.

Application

Stock solutions can be prepared up to 0.5% concentration via an automated make down unit or on a batch basis. Solutions should be aged 30-60 minutes for maximum effectiveness. High quality make up water should be used. Secondary dilution water should be added to the stock solution prior to the addition point at a ratio of at least 10:1. Centrifugal pumps should be avoided for polymer transfer.

Health and Safety

These products can irritate the eyes and skin. Rubber gloves, goggles and protective clothing are recommended for use while handling. They are not acutely toxic by oral and dermal administration to laboratory animals though eye irritation did result. See the Material Safety Data Sheet for complete safety, health and environmental data.

Handling and Storage

Solutions are no more corrosive than water and recommended materials of construction include stainless steel, fiber glass, plastic, and glass or epoxy-lined vessels. Do not use iron, copper or aluminum. ***Spilled polymer is very slippery and should be collected prior to flushing with water.*** The shelf life of these products is 24 months when stored in unopened packages in a dry atmosphere at temperatures no higher than 40°C.

Shipping

The A-100 series of dry PAM SUPERFLOC flocculants are shipped in 25, 500, 750 or 1000 kg moisture-resistant bags.

	SUPERFLOC Flocculants						
Products*	**A-100**	**A-100HMW**	**A-110**	**A-110HMW**	**A-120LMW**	**A-120**	**A-120HMW**
Typical Properties							
Appearance	← Off White, granular powder →						
Degree of Charge, (Mole %)	7	7	16	16	20	20	20
Relative Molecular Weight	High	High	High	High	Medium	High	Very High
Bulk Density, kg/m^3	800 +/-50	800 +/-50	825 +/-50	825 +/-50	825 +/-50	825 +/-50	825 +/-50
pH of 0.5% solution @ 25°C	5.0 - 7.0	5.0 - 7.0	5.0 - 7.0	5.0 - 7.0	5.0 - 7.0	5.0 - 7.0	5.0 - 7.0
Viscosity, cps:							
0.10%	100	150	150	200	170	200	250
0.25%	250	450	350	500	350	400	550
0.50%	500	900	700	950	700	800	1000
Product Sales Specification							
Insolubles, % w/w (Method BD 37)	2.0 Max	2.0 Max	2.0 Max	2.0 Max	2.0 Max	2.0 Max	2.0 Max
Residual Acrylamide, % (Method BD 52)	0.050 Max	0.050 Max	0.050 Max	0.050 Max	0.050 Max	0.050 Max	0.025 Max
PWG[1] Residual Acrylamide, % (Method BD 52)	0.025 Max	–	0.025 Max	–	–	0.025 Max	–
Standard Viscosity, cP (Methods 20, 20A, 21)	4.0-5.4	4.4 - 5.8	4.2-5.6	4.5 - 5.9	3.0-3.4	4.4-5.8	6.0 - 7.4
Regulatory Approvals (the following designations meet these regulatory requirements)							
Chemical Inventory Control	← See MSDS →						
NSF International	A-100	(none)	A-110	(none)	(none)	(none)	(none)
Maximum Usage Levels	2.5mg/L	–	1mg/L	–	–	–	–
Drinking Water Inspectorate (UK)	A-100PWG	(none)	A-110PWG	(none)	(none)	A-120PWG	(none)
FDA (21 CFR 173.5 - sugar)	A-100	A-100HMW	A-110	A-110HMW	A-120LMW	A-120	A-120HMW

Note: These products are available. Ask for other products that may not be shown here.

Government Approval/Regulatory Information

The products are certified to ANSI/NSF Standard 60 for use in potable water by NSF International and also approved by the U.K. Drinking Water Inspectorate. They can also be used as a decolorizing agent and clarification aid for refining sugar liquors and juices as approved by the FDA (21 CFR 173.5). For chemical inventory regulatory control listing information for the U.S., Canada and European Union, see the MSDS.

[1]Potable Water Grade

IMPORTANT NOTICE

The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility or as an assumption of a duty on our part. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information, products or vendors referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE. Nothing herein is to be taken as permission, inducement or recommendation to practice any patented invention without a license.

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