TRAMFLOC, INC.

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Technical Information Bulletin

TRAMFLOC® 1010 SUPERABSORBENT POLYMER

Product Description

Tramfloc® 1010 is a water absorbing polymer derived from plant material. Tramfloc® 1010 has a high tolerance to dissolved ions commonly found in seawater brackish water and in both low and high TDS brines, such as 100000 PPM NaCl. Tramfloc® 1010 retains voluminous quantities of water and nutrients within particle's crystalline matrix. Tramfloc® 1010 does not contain any harmful acrylamide species.

Uses

Tramfloc® 1010 is applied in agriculture, horticulture, forestry, and as a soil amendment for payload carrier agents and for dust control. Tramfloc® 1010 is particularly well suited for oil patch uses such as lost circulation control, dewatering and spill containment. Tramfloc® 1010 can also be applied in food and human contact applications such as processed meat additives, ice packs, and cooling scarves. Tramfloc® 1010 is applied for various medical, sanitary and hygienic uses. Industrial uses include sludge dewatering and solidification, sandless sand bags, and environmental cleanup. Tramfloc® 1010 biodegrades in about 30 days and can be a preferred alternative to sodium based SAP or polyacrylamide or polyacrylate based SAP formulations. Tramfloc® 1010 is insoluble in water and functions across the entire pH range.

Typical Characteristics

Tramfloc® 1010 is supplied as a white, free flowing granules with particle sizes in the 100-500 micron range. The bulk density is 540 kgs/M^3. PH is ~8. The formulation is a cross-linked charge-modified starch.

Application Rates

Rates vary according to the conditions of the soils, crops, water supplies, and whether water is from rainfall or irrigation and the quantities and frequencies of watering. General guidelines are: 2-3 kg/m^2 in mixed substrates consisting of sand, peat and compost; 50-100 g/m^2 in broadcasting.

Packaging, Handling and Storage

Tramfloc® 1010 is available in 25 kgs multi-wall bags packed 40 per pallet and in 2000# sacks. Storage temperatures should be between 32-100^0 F. Unopened bags may be stored in dry conditions for up to one year.

Centrifuge Retention Capacity Tests

Tramfloc 1010, 1001, 1001A, B		Tramfloc 1002, 1004	
Gel Volume (g/g)	36	CRC (g/g)	31
0.3 psi AUL (g/g)	32		
0.7 psi AUL (g/g)	25	0.7 AAP	25
Loss on Heating (%)	2 - 3	Moisture (%)	2 - 3
Residual Monomer (ppm)	300	Residual Monomer (ppm)	300
Bulk Density (g/cc)	0.70	Bulk Density (g/cc)	0.70
PSD < 150 microns (%)	1 - 2	PSD < 150 microns (%)	1 - 2

The difference in gel volume and CRC (Centrifuge Retention Capacity) is explained in other product data. CRC is the official capacity test of EDANA.

Centrifuge Retention Performance Test results for Tramfloc® 1010

Centrifuge Retention Performance	Tramfloc® 1010	Acrylamide Based Co-Polymer
In fresh water, g/g	50	31
In 0.9% NaCl, g/g	33	27
In 10% NaCl, g/g	23	14
In 10% $CaCl_2$, g/g	11	8

Safety and Health

Dry polymer spills should be left dry and swept up at once. Spills of polymer are slippery. Precautions should be taken to prevent them from entering lakes or streams. Tramfloc® Polymer Cleaner 348 can be used to remove residue from equipment and floors. Polymer can be disposed of according to local regulations or treated with an absorbent material, then collected for subsequent legal disposal. Tramfloc® 1010 has been shown to exhibit a low order of toxicity. Nevertheless, precaution should be taken to prevent inhalation, ingestion or contact with skin or eyes. Observing basic industrial hygiene precautions should prevent any health or safety hazards.