

TULSION[®] ADS 850 FG

ADSORBENT RESIN

Tulsion[®] ADS-850 FG is a robust, polymeric adsorbent synthesized from cross-linked polystyrene having no ionic functional group.

Tulsion[®] ADS-850 FG is used for adsorption of phenol and phenolic compounds, chlorinated solvents, surfactants, amino-acids, fatty acids etc. from aqueous solutions. It is also used in pharmaceutical industries for purification of various valuable products.

Tulsion[®] ADS-850 FG is selectively used for extraction of small to large molecules from aqueous solutions such as peptides, proteins, and large color bodies.

Tulsion[®] ADS-850 FG can be regenerated using various regenerant such as organic solvents like methanol, ethanol, acetone etc as well as dilute Caustic soda or dilute hydrochloric acid solution.

Tulsion[®] ADS-850 FG is specially manufactured to suit the requirements of foods and beverage industry processes and tested to comply with title 21 of CFR, Part 173, Section 173.65 (b), at the time of dispatch.

It is recommended that the product should be subjected to the pretreatment as per annexure I before put to actual use in process.

TECHNICAL CHARACTERISTICS

Matrix structure	Poly-divinylbenzene
Physical form	Moist spherical beads
Functional group	None
Particle size	0.3 to 1.2 mm
Effective size	0.45 to 0.55 mm
Moisture content (Approx.)	62 TO 70%
Pore volume	1.4 ml/gm
Pore diameter	100 A°
Surface area of dry beads(minimum)	800 m ² /gm (BET)
Uniformity coefficient	1.5 max.
Backwash settle density	40 to 44 lbs./ft ³ (650 to 710 g/l)
pH range	0 to 14
Swelling in Methanol	15% (max.)
Solubility	Insoluble in all common solvents

SUGGESTED OPERATING CONDITIONS FOR TULSION® ADS-850 FG

Minimum bed depth	40" (1000 mm)
Operating temperature	150°C (Max.)
Service flow	2 to 10 BV/hr (max.)
Backwash expansion space	50 to 75%
Regenerant	Ethanol, MeOH, Iso-propanol, Acetone
	Hot water or steam
	Dilute acids (HCl, H ₂ SO ₄ , H ₃ PO ₄) or dilute bases (NaOH)
Regeneration time	20 to 60 minutes
Regenerant volume	2 to 4 BV
Backwash flow rate	2 to 4 BV/hr
Regeneration flow rate	2 to 4 BV/hr
Rinse flow rate	2 to 6 BV/hr
Rinse volume	2 to 6 m ³ /m ³

TESTING:

The sampling and testing of ion exchange resin is done as per standard testing procedure, namely ASTM-2187 & IS-7330, 1998.

PACKING:

Super Sack	1000 lit.	Super Sack	35 cft
MS drums	180 lit.	Fiber Drums	7 cft
HDPE lines Bags	25 lit.	HDPE Lined Bags	1 cft

For Handling, Safety and Storage requirements please refer to the individual Material Safety Data Sheets available at our offices.

The data included herein are based on test information obtained by Thermax Limited. These data are believed to be reliable, but do not imply any warranty or performance guarantee. Tolerances for characteristics are per BIS/ASTM. We recommend that the user should determine the performance of the product by testing in their processing equipment.

In view of our constant endeavor to improve the quality of our products, we reserve the right to change their specifications without prior notice.



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ANNEXURE I

Procedure for Conditioning of Food Grade Resins

As a good practice for using food grade resin in the process, it is advisable to pre-condition the equipment and the resins before the resin is taken in service for actual use.

Tulsion[®] food grade resins are given the treatment as per the protocol of US FDA 173.65 and tested to comply the requirement of CFR 173.65 at the time of dispatch.

It is advisable that the Tulsion[®] adsorbent food grade resin is subjected to preconditioning procedure as outlined in the procedure given below.

Pre-treatment procedure

- 1) Backwash the resin for sufficient time till the outlet water is visually clear by using DM water.
- 2) Allow bed to settle for 5-10 minutes.
- 3) Pass 3 BV of 10 % NaCl at flow rate of 4 BV/Hr.
- 4) Rinse with 6- 8 BV of DM water till the outlet water chloride free.
- 5) Backwash the resin for about 15 minutes.
- 6) Allow bed to settle for 5 to 10 minutes
- 7) Pass 4 BV DM water at elevated temperature (50 to 60°C) @ 6-8 BV/Hr.
- 8) Rinse the bed with 1 BV of DM water.
- 9) Resin bed is now ready for use.



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