

TULSION® A-23P UPS

Premium grade tough gel strong base anion exchange resin type I

Tulsion® A-23P UPS is a gel type I strong base anion exchange resin based on a polystyrene matrix, containing quaternary ammonium functional group.

Tulsion® A-23P UPS has excellent physical and chemical characteristics due to its crack-free nature. It is ideally suited for use in a wide range of pH and temperatures. The bed surface is crack-free & hence exhibit very high bead strength.

Tulsion® A-23P UPS has a good operating capacity for weak acids like silicic and carbonic along with strong mineral acids, when used in water treatment along with strong acid cation exchange resin Tulsion® T-42H UPS.

This resin is engineered with precise particle size to offer an optimal balance of pressure drop and exchange kinetic performance.

Regulatory certificates & approvals

- ▶ HALAL Certified
- ▶ Kosher certified

Applications

- ▶ De-mineralization
- ▶ De-alkalization
- ▶ Silica removal
- ▶ Mixed bed polisher
- ▶ Separation of anionic metal complexes

Typical characteristics of Tulsion® A-23 UPS

Type	Gel type strong acid cation exchange resin
Appearance	Translucent golden/Pale yellow
Matrix structure	Cross-linked polystyrene
Functional group	Quaternary ammonium type I
Physical form	Moist spherical beads
Ionic form	Chloride
Effective size	0.5 to 0.6 mm
Uniformity coefficient (Max.)	1.2
Total exchange capacity (Min.)	1.3 meq/ml (28.5 kgr.as CaCO ₃ /cft)
Moisture content	50 to 56%
Reversible swelling (Approx.)	Cl ⁻ to OH ⁻ : 20%
pH range	0 to 14
Solubility	Insoluble in all common solvents
Shipping density (Approx.)	670 gm /l (41.8 lbs./cft)
Temperature stability (Max.)	176°F/ 80°C

Influent limitation

Free chlorine	Not traceable
Turbidity	Less than 2 NTU
Iron and heavy metals	Less than 0.1 ppm

Suggested operating conditions for Tulsion® A-23P UPS

Maximum operating temperature	140°F (60°C)
Resin bed depth (minimum)	24" (600 mm)
Maximum service flow	7.5 gpm/ft ³ (60 m ³ /hr /m ³)
Backwash expansion space (Min.)	40 to 75%
Backwash flow rate for 40-70% expansion at 77 °F (@25°C)	1.7 to 2.5 gpm/ft ² (4 - 6 m ³ /hr/m ²)
Regenerant	NaOH
Regenerant concentration	4 to 5 %
Regeneration level (100% basis)	40 to 160 g NaOH/L (2.5 to 10 lbs./cft)
Regeneration time	20 to 60 minutes
Rinse flow rate : Slow	At regeneration flow rate
: Fast	At service flow rate
Rinse volume	30 to 75 gal/ ft ³ (4 to 10 m ³ /m ³)

Testing

The sampling and testing of ion exchange resins is done as per standard testing procedures, namely ASTM-D2187-17 and IS-7330, 1998.

ISO certificates

ISO 14001: 2015, ISO 45001: 2018, and ISO 9001:2015

Packing

Super sack	1000 lit	Super sack	42 cft
MS drums	180 lit	Super sack	35 cft
HDPE sack	50 lit	Fiber drums	7 cft
HDPE lined 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 as per BIS/ASTM standards. We recommend that the user should determine the performance of the product by testing on his own 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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Version 2.0 | 01.04.2022