

TULSION[®]



A-72MP

MACROPOROUS STRONG BASE, TYPE-I ANION EXCHANGE RESIN

Tulsion[®]A-72MP is a specially developed macroporous Type-I strong base anion exchange resin having controlled pore size suitable for color and organics removal. Due to its macroporous nature Tulsion[®]A-72MP exhibits excellent physical and chemical stability in a wide range of pH and temperature conditions.

Tulsion[®]A-72MP can be used for the removal of vast majority of naturally occurring total organic matter from water supply. The capacity of the resin can be restored by using a brine solution.

TYPICAL CHARACTERISTICS

Type	:	Macroporous strong base anion exchange resin
Matrix Structure	:	Cross Linked polystyrene
Functional group	:	Quaternary Ammonium Type-I
Physical form	:	Moist spherical beads
Ionic form	:	Chloride
Particle Size	:	0.3-1.2mm
Total Exchange capacity	:	1.0 meq/ml
Swelling	:	Cl ⁻ to OH ⁻ Approx. 20%
Moisture content(approx.)	:	56 to 62%
Backwash settled density	:	42 to 44 lbs/ft ³ (670-720 g/l)
pH stability range	:	0-14
Solubility	:	Insoluble in all common solvents

RESIN STRUCTURE AND PROPERTIES

Organic matter found in water supplies is usually acidic in nature. These compounds are humic, fulvic acids generated by the decomposition of plant matter. The organic matter can be significantly reduced by subjecting water to some pretreatment such as coagulation, flocculation (by use of polyelectrolytes) and Chlorination.

Tulsion[®] A-72MP in chloride form having specially designed macroporous structure is suitable for color and organic removal. Most of the coloring bodies are Weakly acidic and thus can be exchanged with basic functionality of the resin. The non-ionic bodies get adsorbed on the resin beads due to Van-Der-Waal's attraction and because of the large surface area and macroporosity of the resin. The resin thus performs dual functions of chemical and physical adsorption of coloring bodies. The adsorbed bodies could be stripped off by passing brine or alkaline brine solution through the resin.

APPLICATIONS OF TULSION[®] A-72MP

Removal of precursors and color from Municipal water supplies

The chlorination of water containing organic acids leads to the formation of trihalomethane (THM), which is carcinogenic. Tulsion[®] A-72MP effectively removes organic acids from raw water, virtually eliminating THM precursors and color from water supplies.

Removal of Tannin from domestic water softeners.

When Tulsion[®] A-72MP is placed on top portion of Softener resin, Tulsion[®] T-42 Na, it acts as an effective tannin remover. The resin gets automatically regenerated with brine solution. As Tulsion[®] A-72MP is lighter than the cation, during backwash it gets reclassified back to the top of the resin bed.

TYPICAL OPERATING CONDITIONS

Maximum Operating Temp.	:	195°F (90°C) in Cl ⁻ form
Maximum Service Flow	:	1.25-3.0 gpm/ft ³
Backwash Expansion space	:	100 % (max.)
Backwash Expansion Flow Rate at 77°F(25°C)	:	3-4 gpm/ft ²
Regenerant	:	NaCl.
Regeneration level	:	10-15 lbs/ ft ³
Regenerant concentration	:	10 %
Recommended regeneration flow rate	:	0.2-0.3 gpm/ft ³
Regeneration time	:	30-60 minutes
Rinse flow rate: Slow	:	At regeneration flow rate
Fast	:	At service flow rate
Rinse Volume	:	15-30 gal/ft ³

Regeneration of A-72MP resin is best-achieved using 10% NaCl concentration. However for more aggressive waters where, along with organic matter, inorganic colloidal compounds may also have been removed by the scavenger resin, it is recommended that about 0.5-1 % of NaOH be mixed with the NaCl regenerant solution.

Influent Limitations

Free Chlorine	:	Not traceable
Turbidity	:	Less than 2 N.T.U
Iron and Heavy metals	:	Less than 0.1 ppm

Use of Tulsion® A-72MP as an organic trap in Industrial demineralization

Water with heavy organics is a major problem in DI systems using gel anion resins. Gel type anion resins get irreversibly fouled in a short time due to the entrapped organic molecules. If a vessel of Tulsion® A-72MP is placed before the cation resin of a DI unit, A-72MP acts like a trap for organics thus prolonging the life of cation and anion resins of the DI unit.

NSF APPROVAL

A special grade of Tulsion® A-72MP that is tested and certified by NSF International is also available. NSF International is the most widely recognized independent certification organization for public health safety. Tulsion® A-72MP is certified to meet ANSI/ NSF Standard –61

PACKING

Super Sacks	1000 Liters
Fiber drums	180 Liters
Polythene lined bags	25 Liters

Supersacks	35 ft ³
Fiber Drums	7 ft ³
Polythene lined bags	1 ft ³



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