

# ***TULSION®***



## ***T-42***

### **STRONG ACID CATION EXCHANGE RESIN- HYDROGEN/ SODIUM FORM**

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Tulsion T-42 is a multipurpose, premium grade, strong acid cation exchange resin based on cross linked polystyrene matrix, containing sulphonic acid groups.

It exhibits high capacity combined with excellent physical, chemical stability and operating characteristics. It can be used in a wide range of temperature and pH conditions.

Tulsion T-42 is supplied in the hydrogen form for two bed and mixed bed deionization and in the sodium form for softening applications. Tulsion T-42 is also suited for dealkalization and chemical processing applications.

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## TYPICAL CHARACTERISTICS

Type	:	Strong acid cation exchange resin
Matrix Structure	:	Cross linked polystyrene
Functional group	:	Sulphonic acid
Physical form	:	Moist spherical beads
Ionic form	:	Hydrogen/ Sodium
Particle Size	:	0.3-1.2mm
Screen Size U.S.S(wet)	:	16-50
Total Exchange capacity	:	2.0 meq/ml (Na <sup>+</sup> ) form / 1.8 meq/ml (H <sup>+</sup> )
Swelling (approx.)	:	Na <sup>+</sup> to H <sup>+</sup> 7%
Moisture content(approx.)	:	52% (H <sup>+</sup> ), 45% (Na <sup>+</sup> )
Backwash settled density	:	50 to 52 lbs/ft <sup>3</sup> (800 to 840 g/l) in H <sup>+</sup> form 52 to 55 lbs/ft <sup>3</sup> (840 to 880 g/l) in Na <sup>+</sup> form
Operating pH range	:	0-14
Solubility	:	Insoluble in all common solvents
Shipping weight	:	0.82 Kg/l (approx.) in H <sup>+</sup> form 0.86 Kg/l (approx.) in Na <sup>+</sup> form

## TYPICAL OPERATING CONDITIONS

Maximum Operating Temp.	:	250°F (120°C) in H <sup>+</sup> form 280°F (140°C) in Na <sup>+</sup> form
Resin bed Depth	:	24"(600 mm)
Maximum Service Flow	:	15 gpm/ft <sup>3</sup> (120M <sup>3</sup> /Hr/M <sup>3</sup> )
Backwash Expansion space	:	40 to 75%
Backwash flow Rate for 40 to 75% expansion at 77°F(25°C)	:	4 to 10 gpm/ft <sup>2</sup> (9 to 25 M <sup>3</sup> /Hr/M <sup>2</sup> )
Regenerant	:	HCl or H <sub>2</sub> SO <sub>4</sub> for H <sup>+</sup> form NaCl for Na <sup>+</sup> form.
Regeneration level	:	1.9 to 10.0 lbs HCl/ ft <sup>3</sup> (30-160 g HCl/l) 2.5 to 15.6 lbs H <sub>2</sub> SO <sub>4</sub> / ft <sup>3</sup> (40-250 g H <sub>2</sub> SO <sub>4</sub> /l) 3.7 to 10.0 lbs NaCl/ft <sup>3</sup> (60-160 g NaCl/l)
Regenerant concentration	:	1.5 to 5.0% for H <sub>2</sub> SO <sub>4</sub> 3.0 to 5.0% for HCl 5.0 to 15.0% for NaCl
Regeneration flow rate	:	0.25 to 2 gpm/ ft <sup>3</sup> (2 to 16 M <sup>3</sup> /Hr/M <sup>3</sup> )
Regeneration time	:	20-60 minutes
Rinse flow rate: Slow	:	At regeneration flow rate
Fast	:	At service flow rate
Rinse Volume	:	25 to 40 gal/ft <sup>3</sup> (3 to 5 M <sup>3</sup> /M <sup>3</sup> )
<b>Influent Limitations</b>		
Free Chlorine	:	Not traceable
Turbidity	:	Less than 2 N.T.U
Iron and Heavy metals	:	Less than 0.1 ppm

## PACKING

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

Supersacks	35 ft <sup>3</sup>
Fiber Drums	7 ft <sup>3</sup>
Polythene lined bags	1 ft <sup>3</sup>



**THERMAX INC.**  
40440 Grand River Avenue, Novi,  
Michigan 48375, USA  
Tel# 248-474-3050, Fax# 248-474-5790

**THERMAX**

**CHEMICAL DIVISION**  
**An ISO-9001 Company**

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