SOFTENING CATION EXCHANGE RESINS

Tulsion®	Type	Matrix Structure	Functional Group	Ionic Form Supplied	Screen Size US Mesh	Particle Size mm (Min. 95%)	Stability Max Temp °F / °C	pH Range	Total Exchange Capacity meq/ml. (min)	Backwash Settled Density lbs/cft g/l	Reversible Swelling % Approx	Moisture Content % Approx	Features	Applications
T-42	Strong Acid	Polystyrene Copolymer	Nuclear Sulphonic	Sodium	16-50	0.3-1.2	280/140	0-14	2.0	51-53 810-850	$Na^+ \rightarrow H^+$ 7	45±3	High capacity gel cation exchange resin, with optimum operating capacities.	Industrial and domestic softening at relatively low regeneration costs .
T-52	Strong Acid	Polystyrene Copolymer	Nuclear Sulphonic	Sodium	16-50	0.3-1.2	280/140	0-14	2.1	52-54 830-860	$Na^+ \rightarrow H^+$ 6	43±3	High capacity gel cation exchange resin, with high operating capacities.	Domestic softening for chlorinated water.
CXO-9 Na	Weak Acid	Polyacrylic Copolymer	Carboxylic	Sodium	16-50	0.3-1.2	210/100	5-14	4	42-44 670-710	$H^+ \rightarrow Na^+$ 100	47±3	High capacity acrylic weak acid cation exchange resin with excellent physical and chemical stability.	Industrial and domestic softening at relatively low regeneration costs.

DEMINERALIZATION CATION EXCHANGE RESINS

Tulsion®	Type	Matrix Structure	Functional Group	Ionic Form Supplied	Screen Size US Mesh	Particle Size mm (Min. 95%)	Stability Max Temp °F / °C	pH Range	Total Exchange Capacity meq/ml. (min)	Backwash Settled Density lbs/cft g/l	Reversible Swelling % Approx	Moisture Content % Approx	Features	Applications
T-42	Strong Acid	Polystyrene Copolymer	Nuclear Sulphonic	Hydrogen	16-50	0.3-1.2	250/120	0-14	1.8	50-52 H^+ 800-840 H^+	$Na^+ \rightarrow H^+$ 7	52±3	High capacity gel cation exchange resin with excellent physical and chemical properties.	Softening, multiple and mixed bed demineralisation, dealkalization, chemical processing etc.
CXO-9	Weak Acid	Polyacrylic Copolymer	Carboxylic	Hydrogen	16-50	0.3-1.2	210/100	5-14	4.0	42-44 Na^+ 670-710 Na^+ 46-48 H^+ 730-770 H^+	$H^+ \rightarrow Na^+$ 100	47±3	High capacity acrylic weak acid cation exchange resin with excellent physical and chemical stability.	Water deionization, selective heavy metal removal. Softening of high salinity waters in sodium cycle.
CXO-12	Weak Acid	Polyacrylic Copolymer	Carboxylic	Hydrogen	16-50	0.3-1.2	210/100	5-14	4.2	47-49 750-790	$H^+ \rightarrow Na^+$ 75	45±3	High capacity acrylic weak acid cation exchange resin with excellent physical and chemical stability	Water deionization, dealkalization selective heavy metal removal. Softening of high salinity waters in sodium cycle.
CXO-12 MP	Weak Acid	Polyacrylic Copolymer	Carboxylic	Hydrogen	16-50	0.3-1.2	210/100	5-14	4.1	47-49 750-790	$H^+ \rightarrow Na^+$ 70	47±3	Macropous acrylic weak acid cation exchange resin with excellent physical and chemical stability.	Water deionization, dealkalization selective heavy metal removal. Softening of high salinity waters in sodium cycle.
T-54	Strong Acid	Polystyrene Copolymer	Nuclear Sulphonic	Hydrogen	16-50	0.3-1.2	250/120	0-14	2.0	50-52 800-840	$Na^+ \rightarrow H^+$ 6	52±3	High capacity gel cation exchange resin, with optimum operating capacities	Softening, multiple and mixed bed demineralisation, dealkalization, chemical processing etc.
T-52	Strong Acid	Polystyrene Copolymer	Nuclear Sulphonic	Hydrogen	16-50	0.3-1.2	250/120	0-14	1.9	50-52 800-840	$Na^+ \rightarrow H^+$ 7	48±3	High capacity gel cation exchange resin, with optimum operating capacities	Softening, multiple and mixed bed demineralisation, dealkalization, chemical processing etc.
CXO-14 MP H	Weak Acid	Polystyrene Copolymer	Carboxylic	Hydrogen	16-50	0.3-1.2	210/100	5-14	2.6	47-49 750-790	$H^+ \rightarrow Na^+$ 70	56±3	Macropous acrylic weak acid cation exchange resin with excellent physical and chemical stability.	Water deionization, dealkalization selective heavy metal removal. Softening of high salinity waters in sodium cycle.

DEMINERALIZATION ANION EXCHANGE RESINS

Tulsion®	Type	Matrix Structure	Functional Group	Ionic Form Supplied	Screen Size US Mesh	Particle Size mm (Min. 95%)	Stability Max Temp °F / °C	pH Range	Total Exchange Capacity meq/ml. (min)	Backwash Settled Density lbs/cft g/l	Reversible Swelling % Approx	Moisture Content % Approx	Features	Applications
A23P	Strong Base	Polystyrene Copolymer	Quaternary Ammonium Type I	Chloride	16-50	0.3-1.2	175/80	0-14	1.25	42-44 670-710	$Cl^- \rightarrow OH^-$ 25	53±3	Porous strong base type I anion exchange resin. Excellent physical and chemical properties.	Multiple and mixed bed deionization, silica removal.
A-32	Strong Base	Polystyrene Copolymer	Quaternary Ammonium Type II	Chloride	16-50	0.3-1.2	140/60	0-14	1.3	43-45 690-720	$Cl^- \rightarrow OH^-$ 12	47±3	Tough gel, Type II strong base anion exchange resin. Excellent physical and chemical properties.	Multiple bed deionization
A-27 MP	Strong Base	Polystyrene Copolymer	Quaternary Ammonium Type I	Chloride	16-50	0.3-1.2	175/80	0-14	1.2	42-44 670-710	$Cl^- \rightarrow OH^-$ 9	58±3	Macroporous strong base type I anion exchange resin with excellent physical and chemical stability and resistance to organic fouling	Mulitiple bed deionization, delalkalization and silica removal.
A-27 Gel	Strong Base	Polystyrene Copolymer	Quaternary Ammonium Type I	Chloride	16-50	0.3-1.2	140/60	0-14	1.3	42-44 670-710	$Cl^- \rightarrow OH^-$ 9	50±3	Tough gel, strong base type I anion exchange resin. Excellent physical and chemical properties.	Multiple mixed bed de-ionization silica removal also applied in stream purification along with Tulsion T -42.
A-36 Gel	Strong Base	Polystyrene Copolymer	Quaternary Ammonium Type II	Chloride	16-50	0.3-1.2	105/40	0-14	1.3	43-45 690-720	$Cl^- \rightarrow OH^-$ 9	48±3	High efficient & durable type II, strong base exchange resin having excellent operating capacity & regeneration effciency at equivalent regeneration level.	Besides its primary aplication in water treatment it is also used in de-alkalization process.
A-36 MP	Strong Base	Polystyrene Copolymer	Quaternary Ammonium Type II	Chloride	16-50	0.3-1.2	140/60	0-14	1.2	42-44 670-710	$Cl^- \rightarrow OH^-$ 9	50±3	Macroporous strong base type II anion exchange resin having high regeneration efficiency and resistance to organic fouling.	Multiple bed deionization, dealkalization.
A-2X MP	Weak Base	Polystyrene Copolymer	Tertiary Amine	Free Base	16-50	0.3-1.2	175/80	0-9	1.5	40-42 640-670	$FB \rightarrow Cl^-$ 20	47±3	Macroporous weak base anion exchange resin, excellent regeneration efficiency. Resistance to organic fouling.	Deionization of high EMA waters.
A-10X MP	Weak Base	Polyacrylic Copolymer	Polyamine	Free Base	16-50	0.3-1.2	140/60	0-9	2.5	43-45 690-720	$FB \rightarrow Cl^-$ 23	52±3	Macroporous acrylic weak base anion exchange resin with high organic removal efficiency.	Deacidification and deionization of high EMA, high organics water.
A-20 X Gel	Weak Base Anion	Polyacrylic Copolymer	Tertiary Amine	Free Base	16-50	0.3-1.2	140/60	0-5	1.6	43-45 690-721	$FB \rightarrow Cl^-$ 24	50±5	Effectively used for treatment of high organic waters.	Used in water treatment applications for the removal of free mineral acids.
A-23	Strong Base	Polystyrene Copolymer	Quaternary Ammonium Type I	Chloride	16-50	0.3-1.2	175/80	0-14	1.3	42-44 670-710	$Cl^- \rightarrow OH^-$ 20	53±3	Tough gel, stong base type I anion exchange resin. Excellent physical and chemical properties.	Multiple and mixed bed deionization, silica removal. Also applied in process stream purification along with Tulsion T-42.