ION EXCHANGE RESIN ANALYSIS

Company Name	**Watersurplus**	Sample #	**RTC-32952**
Customer Name	**Craig Hall**	Date Received	**11/6/2017**
Contact #	**(815) 636-8833**	Date Analyzed	**11/8/2017**
Customer E-mail	**Chall@watersurplus.com**	Your ResinTech Rep	**Carl Galletti**
Sample Description	**ION2810190 MBD**	Tech Rep E-mail	**cgalletti@resintech.com**
Reported Problem	**None Reported**	Tech Rep Phone	**(708) 261-5931**

ANALYSIS AT A GLANCE

MIXED BED RESIN

(See component analysis for additional details)

Manufacturer & Part #	**Dow Monosphere 550A & 650C**
Overall Condition	**Good**
Resin Ratio	**Cation Heavy**
Physical Condition	**Good – clean in appearance**
Overall Separation	**Good / Normal**
Bead Integrity	**Good**
Overall Recommendation	**Suitable for use**

SUMMARY

	Anion	Cation
Total Capacity meq/ml	1.38	2.21
Moisture % H_2O	46.0%	39.0%
Percent Broken	0%	0%
% in Mixed Bed - Exhausted	45%	55%
Anion to Cation Equivalency Ratio	0.51	

Comments

Six mixed bed samples were submitted for analysis. This sample was identified as **ION2810190**. The customer wants to determine the condition of each sample as a potential resale objective. No problems were reported.

The sample was prepared for testing, and then placed into saturated brine to separate the components and determine a ratio. The components separated completely. They were clean in appearance, and no clumping was observed. The ratio was 45% anion and 55% cation, which is cation heavy. However, the sampling / mixing techniques were not disclosed.

Further testing indicates that the anion and cation components are in very good condition both physically and chemically. Capacity and moisture values are similar to newer resin. There was also no *visual* evidence of any fouling observed during pretreatment. Therefore, the analysis suggests that the mixed bed is suitable for use, and capable of performing under standard exchange deionization.

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Reported Problem	**None Reported**	Tech Rep Phone	**(708) 261-5931**

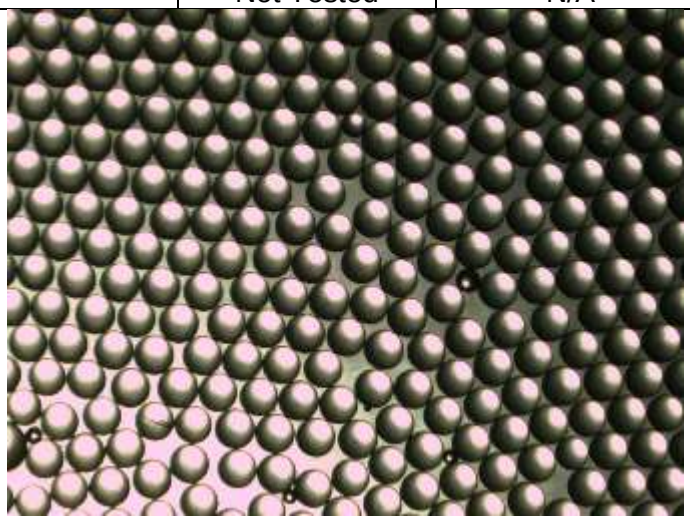
ANALYSIS AT A GLANCE

Type of Resin	**Strong Base Anion Portion of the Mixed Bed**
Manufacturer & Part #	**Dow Monosphere 550A**
Chemical Condition	**Good**
Moisture	**Normal**
Physical Condition	**Good – clean in appearance**
Bead Integrity	**Good**
External Foulants	**Low**
Internal Foulants	**Not Evaluated**
Screen Size Distribution	**Uniform particle size**
Overall Recommendation	**Suitable for use**

ROUTINE ANALYSIS

Based on Chloride Form Type 1 Gel Strong Base Anion Resin

	Results	Typical New	% of New
Total Capacity meq/ml	1.38	1.45	95%
Salt Splitting Capacity meq/ml	1.38	1.40	98%
Moisture % H_2O	46.0%	45%	
Percent Broken	0%	1%	
TOC Extractables ppm	Not Tested	N/A	



Comments

See page 1 for all comments.

ION EXCHANGE RESIN ANALYSIS

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Sample Description	**ION2810190 MBD**	Tech Rep E-mail	**cgalletti@resintech.com**
Reported Problem	**None Reported**	Tech Rep Phone	**(708) 261-5931**

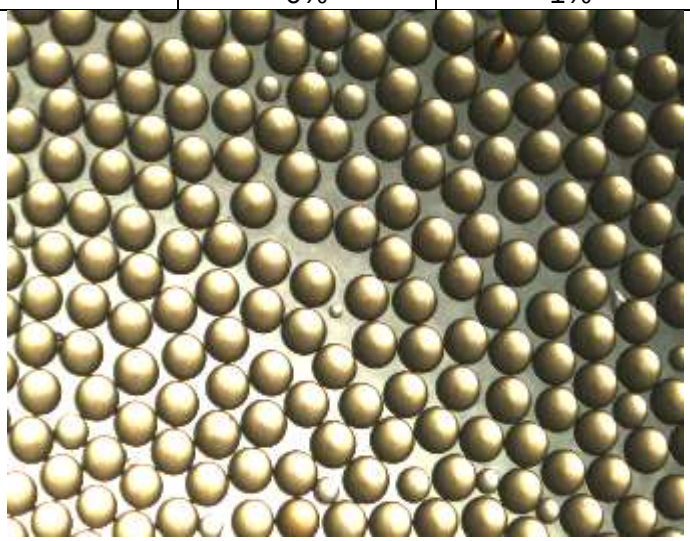
ANALYSIS AT A GLANCE

Type of Resin	**Strong Acid Portion of the Mixed Bed**
Manufacturer & Part #	**Dow Monosphere 650C**
Chemical Condition	**Good**
Moisture	**Normal**
Physical Condition	**Good – clean in appearance**
Bead Integrity	**Good**
External Foulants	**Low**
Internal Foulants	**Not Evaluated**
Screen Size Distribution	**Uniform particle size**
Overall Recommendation	**Suitable for use**

ROUTINE ANALYSIS

Based on Sodium Form 10% DVB Gel Cation Resin

	Results	Typical New	% of New
Total Capacity meq/ml	2.21	2.2	99+%
Moisture % H_2O	39.0%	41%	
Percent Broken	0%	1%	



Comments

See page 1 for all comments.