



# AMBERLYST® A21

Industrial Grade Weakly Basic Polymeric Resin

## PRODUCT DATA SHEET

AMBERLYST A21 is a bead form, weak base anion exchange resin developed for the removal of acidic materials from product streams. AMBERLYST A21 is supplied in the water-moist free base form. After proper solvent conditioning, it can be used directly to remove acidic materials from organic solvents and to

remove phenol from benzene and inhibitors from monomers : hydroquinone (HQ), hydroquinone mono-ethyl ether (MEHQ), tertiary butyl catechol (TBC).

AMBERLYST A21 is also used in adsorption of SO<sub>2</sub> from gas streams.

### PROPERTIES

Physical form _____	Opaque spherical beads
Ionic form as shipped _____	Free Base (FB)
Concentration of active sites _____	≥ 1.30 eq/L <sup>[1]</sup>
	≥ 4.6 eq/kg
Moisture holding capacity <sup>[1]</sup> _____	54 to 60 % (FB form)
Shipping weight _____	660 g/L (41.2 lbs/ft <sup>3</sup> )
Particle size	
Harmonic mean size _____	0.490 - 0.690 mm
Uniformity coefficient _____	≤ 1.80
Fines content <sup>[1]</sup> _____	< 0.300 mm : 1.0 % max
Coarse beads _____	> 1.180 mm : 2.0 % max
Nitrogen BET	
Surface area _____	35 m <sup>2</sup> /g
Average pore diameter _____	110 Å
Total pore volume _____	0.10 cc/g
Swelling _____	Water to phenol : 77 %

<sup>[1]</sup> Contractual value

### SUGGESTED OPERATING CONDITIONS (Chemical Processing)

pH range _____	0 to 14		
Maximum operating temperature _____	100°C (210°F)		
Minimum bed depth _____	600 mm (24 inches)		
Service flow rate _____	8 to 40 BV/h (1 to 5 gpm/ft <sup>3</sup> )		
<b>Regenerants</b> _____	<b>NaOH</b>	<b>NH<sub>4</sub>OH</b>	<b>Na<sub>2</sub>CO<sub>3</sub></b>
Flow rate (BV/h) _____	4 to 8	4 to 8	4 to 8
Flow rate (gpm/ft <sup>3</sup> ) _____	0.5 to 1.0	0.5 to 1.0	0.5 to 1.0
Concentration (%) _____	2 to 4	2 to 4	4 to 8
Level _____	120 % of ionic load		
Minimum contact time _____	30 minutes		
Slow rinse _____	2 BV (15 gal/ft <sup>3</sup> ) at regeneration flow rate		
Fast rinse _____	2 to 4 BV (15 to 30 gal/ft <sup>3</sup> ) at service flow rate		

