



Product Data Sheet

### DOWEX™ 21K 16/20

A High Efficiency, Large Bead, Industrial Grade, Strong Base Anion Exchange Resin for Mineral Processing Applications

#### Description

DOWEX 21K 16/20 type I strong base anion resin has excellent kinetics, excellent regeneration efficiency and outstanding physical stability. This enhanced-porosity gel bead product is made by a special process giving enhanced resistance to organics and fast equilibrium rates. The DOWEX 21K family of resins is specially suited for mineral processing and groundwater remediation applications. DOWEX 21K 16/20 type I strong base resin is suited for fluidized-bed and Resin-in-Pulp applications.

#### Typical Physical and Chemical Properties

(These are typical properties, not to be construed as specifications.)

Type	Type I strong base anion	
Matrix	Styrene-DVB, gel	
Functional group	Quaternary amine	
Ionic form as shipped	<b>Cl<sup>-</sup> form</b>	
Total exchange capacity, min.	eq/L	1.2
Bead size distribution		
Thru 20 mesh, max.	%	10
Thru 25 mesh, max.	%	2
Water content	%	50–58
Whole uncracked beads	%	90–100
Total swelling (Cl <sup>-</sup> → OH <sup>-</sup> )	%	20
Particle density	g/mL	1.08
Shipping weight	g/L lbs/ft <sup>3</sup>	690 43

#### Suggested Operating Conditions

Maximum operating temperature	
OH <sup>-</sup> form	60°C (140°F)
Cl <sup>-</sup> form	100°C (212°F)
pH range	0–14
Bed depth, min.	800 mm (2.6 ft)
Flow rates:	
Service/fast rinse	5–50 m/h (2–20 gpm/ft <sup>2</sup> )
Backwash	See Figure 1
Co-current regeneration/displacement rinse	1–10 m/h (0.4–4 gpm/ft <sup>2</sup> )
Total rinse requirement	3–6 BV*
Regenerant:	
Type	NaCl/Carbonate
Temperature	Ambient or up to 50°C (122°F) for silica removal
Organic loading, max.	3g KMnO <sub>4</sub> /l resin

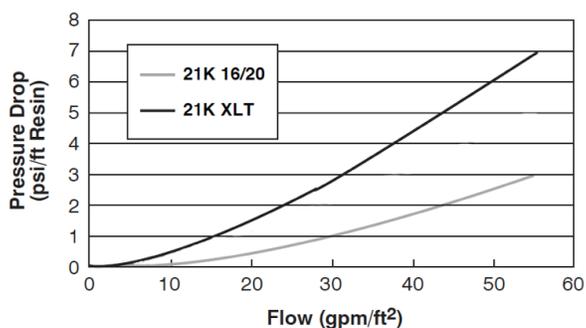
\*1 BV (Bed Volume) = 1 m<sup>3</sup> solution per m<sup>3</sup> resin or 7.5 gals per ft<sup>3</sup> resin

#### Packaging

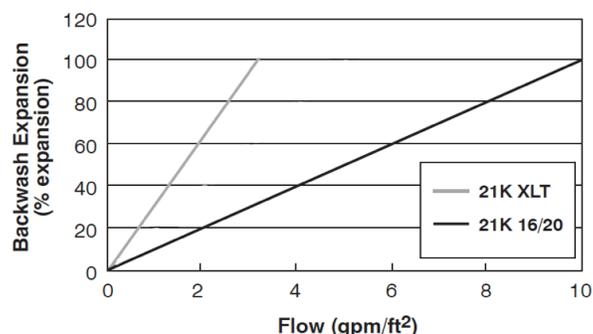
5 cubic foot fiber drums

## Hydraulic Characteristics

**Figure 1. Pressure Drop vs. Flow Rate**  
For DOWEX™ 21K Resins, Cl, 77°F



**Figure 2. Backwash Expansion vs. Flow Rate**  
For DOWEX 21K Resins, Cl, 77°F



## Handling Precautions

Before using this product, consult the Material Safety Data Sheet (MSDS)/Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage.

## Storage

Store products in tightly closed original containers at temperatures recommended on the product label.

## Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

## Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

## Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

**DOWEX™ Ion Exchange Resins**  
**For more information about DOWEX™**  
**resins, call the Dow Water & Process**  
**Solutions business:**

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<http://www.dowwaterandprocess.com>

Warning: Oxidizing agents such as nitric acid attack organic ion exchange resins under certain conditions. This could lead to anything from slight resin degradation to a violent exothermic reaction (explosion). Before using strong oxidizing agents, consult sources knowledgeable in handling such materials.

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