



Tel: +44 (0) 1706 869777  
 E-mail: [sales@desal.co.uk](mailto:sales@desal.co.uk)  
 Web: [www.desal.co.uk](http://www.desal.co.uk)

## DOWEX™ TAN-1

An Open Pore Macroporous Strong Base Anion Exchange Resin for Organics Removal From Potable Water and Food Applications

Product	Type	Matrix	Functional group
DOWEX™ TAN-1	Type I strong base anion	Styrene-DVB, macroporous	Quaternary amine

Guaranteed Sales Specifications		Cl <sup>-</sup> form
Total exchange capacity, min.	eq/L	0.7
	kg/ft <sup>3</sup> as CaCO <sub>3</sub>	15.3
Water content	%	70-82
Particle size distribution†	>1,200 μm, max (16 mesh)	3
	< 420 μm, max (40 mesh)	5
	Whole Bead, min.	90

Typical Physical and Chemical Properties		Cl <sup>-</sup> form
Total swelling (Cl <sup>-</sup> → OH <sup>-</sup> )	%	17
Particle density	g/mL	1.06
Shipping weight**	g/L	689
	lbs/ft <sup>3</sup>	43

### Recommended 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 - 25 m/h (2 - 10 gpm/ft<sup>2</sup>)
  - Co-current regeneration/displacement rinse 1 - 8 m/h (0.4 - 3.2 gpm/ft<sup>2</sup>)
  - Counter-current regeneration/displacement rinse 5 - 15 m/h (2 - 5 gpm/ft<sup>2</sup>)
- Total rinse requirement 3 - 5 Bed volumes
- Regenerant:
  - Type 4 - 7% NaOH or 3-10% NaCl
  - Temperature Ambient or up to 50°C (122°F) for silica removal

† For additional particle size information, please refer to the Particle Size Distribution Cross Reference Chart (Form No. 177-01775).

\*\* As per the backwashed and settled density of the resin, determined by ASTM D-2187.

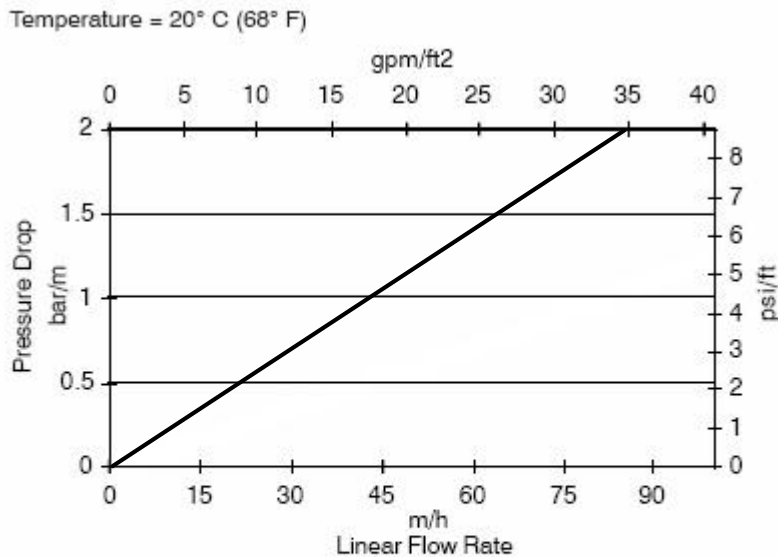
## Typical Properties and Applications

DOWEX™ TAN-1 is a macroporous strong base anion resin with an open pore structure allowing for a more effective binding and removal of total organics while offering a more efficient regeneration due to faster kinetics. It is well suited for use to bind and remove many larger organics like tannic acids, which pass through simple UF, sand filtration and other first stage processing steps. The DOWEX TAN-1 resin is certified under ANSI STD 61 making it a useful tool for the removal of organics from surface water sources being targeted for potable water. The DOWEX TAN-1 resin also meets the 21CFR173.25 for food contact and can be applied to bind organics from process streams for flavor and color control.

## Packaging

5 cubic foot fiber drums

Figure 1. Pressure Drop Data



### For other temperatures use:

$$P_T = P_{20^\circ\text{C}} / (0.026 T_{\text{C}} + 0.48), \text{ where } P \equiv \text{bar/m}$$

$$P_T = P_{68^\circ\text{F}} / (0.014 T_{\text{F}} + 0.05), \text{ where } P \equiv \text{psi/ft}$$

### DOWEX™ Ion Exchange Resins

For more information about DOWEX resins, call the Dow Water Solutions business:

North America: 1-800-447-4369  
 Latin America: (+55) 11-5188-9222  
 Europe: (+32) 3-450-2240  
 Pacific: +60 3 7958 3392  
 Japan: +813 5460 2100  
 China: +86 21 2301 9000  
<http://www.dowwatersolutions.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.

Notice: No freedom from any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Dow assumes no obligation or liability for the information in this document. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

