

# Safety data sheet

DOWEX™ HCR-S/S



A High Capacity Cation Exchange Resin for Domestic Applications

Product	Type	Matrix	Functional group
DOWEX™ HCR-S/S	Strong acid cation	Styrene-DVB, gel	Sulfonic acid

Guaranteed Sales Specifications		Na <sup>+</sup> form
Total exchange capacity, min.	eq/L kgr/ft <sup>3</sup> as CaCO <sub>3</sub>	1.9 41.5
Bead size distribution range†		
300 - 1,200 µm, min.	%	90
< 300 µm, max.	%	1
Whole uncracked beads, min.	%	90
Color throw, as packaged, max.	APHA	20
Acidity range	pH	7.0 - 9.5

Typical Physical and Chemical Properties		Na <sup>+</sup> form
Water content	%	48 - 52
Total swelling (Ca <sup>++</sup> → Na <sup>+</sup> )	%	5
Particle density	g/mL	1.30
Shipping weight	g/L lbs/ft <sup>3</sup>	800 50

## Recommended Operating Conditions

- Maximum operating temperature 120°C (250°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 Bed volumes
- Regenerant: 8 - 12% NaCl

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

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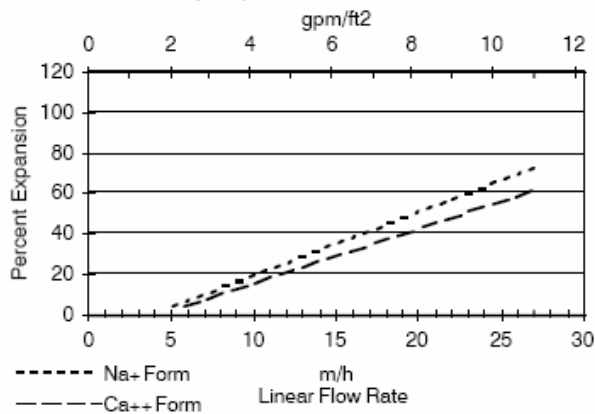
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**Figure 1. Backwash Expansion Data**

Temperature = 25°C (77°F)



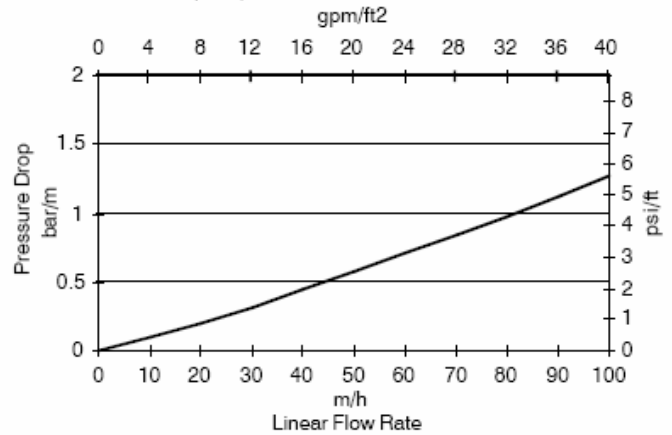
**For other temperatures use:**

$$F_T = F_{77°F} [1 + 0.008 (T_F - 77)], \text{ where } F \equiv \text{gpm/ft}^2$$

$$F_T = F_{25°C} [1 + 0.008 (1.8T_C - 45)], \text{ where } F \equiv \text{m/h}$$

**Figure 2. Pressure Drop Data**

Temperature = 20°C (68°F)



**For other temperatures use:**

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

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

**DOWEX Ion Exchange Resins**  
**For more information about DOWEX resins, call the Dow Liquid Separations 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

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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