

PRODUCT DATA SHEET

**AMBERSEP™ 4400 HCO<sub>3</sub>**  
**Industrial Grade Strong Base Anion Exchanger**

AMBERSEP 4400 HCO<sub>3</sub> resin is a uniform particle size, strongly basic anion exchange resin of the type 1 with a clear gel structure, based on crosslinked polystyrene. It has a high capacity and low moisture holding. Due to its uniform particle size distribution AMBERSEP 4400 HCO<sub>3</sub> resin has excellent kinetic

and outstanding physical stability, illustrated by its very high bead integrity and its resistance to osmotic shock and mechanical stress.

AMBERSEP 4400 HCO<sub>3</sub> has been specially developed for the extraction of uranium from ore by alkaline leaching.

---

**PROPERTIES**

---

Physical form _____	Light amber spherical beads
Matrix _____	Styrene divinylbenzene copolymer
Functional group _____	Trimethyl ammonium
Ionic form as shipped _____	HCO <sub>3</sub> <sup>-</sup>
Total exchange capacity <sup>[1]</sup> _____	≥ 1.40 eq/L (Cl <sup>-</sup> form)
Moisture holding capacity <sup>[1]</sup> _____	40 to 48 % (Cl <sup>-</sup> form)
Shipping weight _____	730 g/L
Particle size	
Uniformity coefficient <sup>[1]</sup> _____	≤ 1.2
Harmonic mean size _____	0.53 – 0.63 mm
< 0.425 mm <sup>[1]</sup> _____	0.5 % max
Maximum reversible swelling _____	Cl <sup>-</sup> → HCO <sub>3</sub> <sup>-</sup> : 10-15 %

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

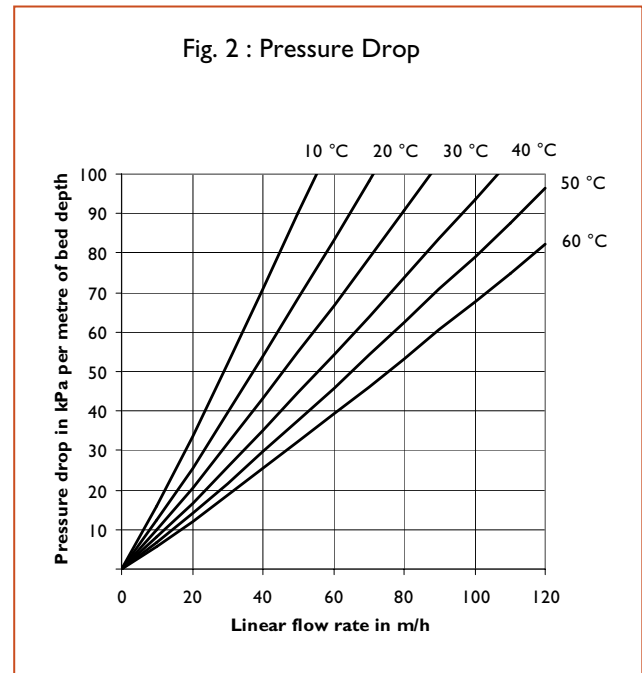
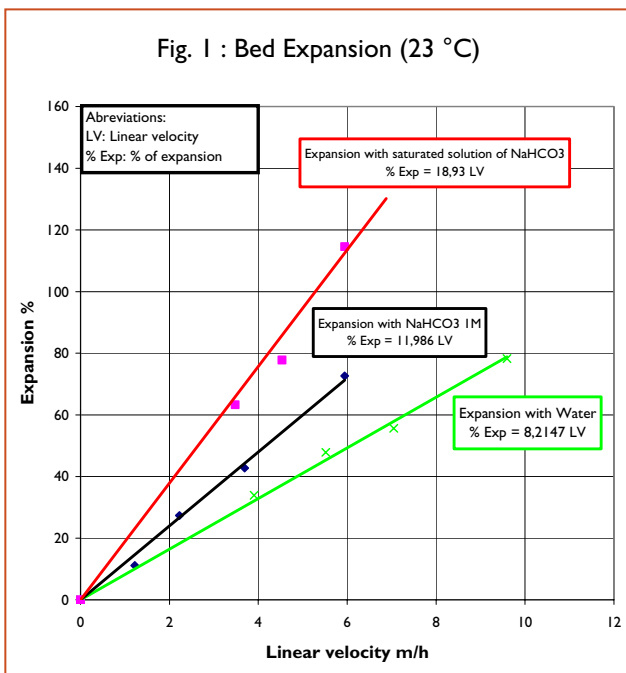
*Test methods available upon request*

## LIMITS OF USE

AMBERSEP 4400 HCO<sub>3</sub><sup>-</sup> resin is suitable for industrial uses. For all other specific applications such as pharmaceutical, food processing or potable water applications, it is recommended that all potential users seek advice from Rohm and Haas in order to determine the best resin choice and optimum operating conditions.

## HYDRAULIC CHARACTERISTICS (Water Treatment)

Figure 1 shows the bed expansion of AMBERSEP 4400 HCO<sub>3</sub><sup>-</sup> resin as a function of backwash flow rate. Figure 2 shows the pressure drop data for AMBERSEP 4400 HCO<sub>3</sub><sup>-</sup> resin, as a function of service flow rate and water temperature. Pressure drop data are valid at the start of the service run with clear water and a correctly classified bed.



All our products are manufactured in ISO 9001 certified facilities.

Rohm and Haas/Ion Exchange Resins - Philadelphia, PA - Tel. (800) RH AMBER - Fax: (215) 409-4534  
Rohm and Haas/Ion Exchange Resins - 75579 Paris Cedex 12 - Tel. (33) 1 40 02 50 00 - Fax : 1 43 45 28 19



AMBERSEP is a trademark of Rohm and Haas Company and its affiliates, Philadelphia, U.S.A.

Ion exchange resins and polymeric adsorbents, as produced, contain by-products resulting from the manufacturing process. The user must determine the extent to which organic by-products must be removed for any particular use and establish techniques to assure that the appropriate level of purity is achieved for that use. The user must ensure compliance with all prudent safety standards and regulatory requirements governing the application. Except where specifically otherwise stated, Rohm and Haas Company does not recommend its ion exchange resins or polymeric adsorbents, as supplied, as being suitable or appropriately pure for any particular use. Consult your Rohm and Haas technical representative for further information. Acidic and basic regenerant solutions are corrosive and should be handled in a manner that will prevent eye and skin contact. Nitric acid and other strong oxidising agents can cause explosive type reactions when mixed with Ion Exchange resins. Proper design of process equipment to prevent rapid buildup of pressure is necessary if use of an oxidising agent such as nitric acid is contemplated. Before using strong oxidising agents in contact with Ion Exchange Resins, consult sources knowledgeable in the handling of these materials.

Rohm and Haas Company makes no warranties either expressed or implied as to the accuracy or appropriateness of these data and expressly excludes any liability upon Rohm and Haas arising out of its use. We recommend that the prospective users determine for themselves the suitability of Rohm and Haas materials and suggestions for any use prior to their adoption. Suggestions for uses of our products of the inclusion of descriptive material from patents and the citation of specific patents in this publication should not be understood as recommending the use of our products in violation of any patent or as permission or license to use any patents of the Rohm and Haas Company and its affiliates. Material Safety Data Sheets outlining the hazards and handling methods for our products are available on request.