

# Ion exchangers

The following pages show general information about ion exchangers available at Merck Millipore. If you are interested in additional information please visit [www.merckmillipore.com/ionexchangers](http://www.merckmillipore.com/ionexchangers)

## Strongly acid cation exchangers

The bond strength of equivalent ions increases with decreasing diameter of the hydrated ion.

This leads to following selectivity series:

$\text{Li}^+ < \text{H}^+ < \text{Na}^+ < \text{NH}_4^+ < \text{K}^+ < \text{Rb}^+ < \text{Cs}^+ < \text{Ag}^+$

$\text{Be}^{2+} < \text{Mg}^{2+} < \text{Ca}^{2+} < \text{Sr}^{2+} < \text{Ba}^{2+}$

$\text{Hg}^{2+} < \text{Be}^{2+} < \text{Mn}^{2+} < \text{Mg}^{2+} = \text{Zn}^{2+} < \text{Co}^{2+} < \text{Cd}^{2+} < \text{Cu}^{2+} < \text{Ni}^{2+} < \text{Ca}^{2+} < \text{Pb}^{2+}$

$\text{Cr}^{3+} < \text{Ce}^{3+} < \text{La}^{3+}$

### Specifications of strongly acid cation exchangers

Max. working temperature	120°C		
pH range	0-14		
Regenerant	HCl	H <sub>2</sub> SO <sub>4</sub>	NaCl
Concentration in water [%]	5-10	2-4	8-10

### Ordering information – Strongly acid cation exchangers

Product	Ordering No.	Form	Size	Exchange capacity [mval/mL]
Ionexchanger I	1.04765.0500	H <sup>+</sup>	500 g	>1.7
Ionexchanger I	1.04765.5000	H <sup>+</sup>	5 kg	>1.7
Amberlite® IR-120	1.15131.0500	H <sup>+</sup>	500 mL	>1.7
Amberlite® IR-120	1.15131.5000	H <sup>+</sup>	5 L	>1.7
Amberlite® IR-120	1.15966.0500	Na <sup>+</sup>	500 mL	>1.9
Amberlyst® 15	1.15635.0500	H <sup>+</sup>	500 mL	>1.75
Dowex® 50 WX 8	1.05221.0250	H <sup>+</sup>	250 g	>1.7
Dowex® 50 WX 4	1.05238.0250	H <sup>+</sup>	250 g	>1.1
Dowex® Monosphere 650C (H)	1.00586.0500	H <sup>+</sup>	500 g	>2.0