



Chelex® 100 Resin

At a Glance

Chelex 100 Resin is a styrene divinylbenzene copolymer containing paired iminodiacetate ions, which act as chelating groups in binding polyvalent metal ions. The carboxylic acid groups of Chelex 100 Resin classify it as a weak cation exchange resin, but it differs from other exchangers in this class by featuring uniquely high selectivities for metal ions and much higher bond strengths. It can be stored at ambient temperature and is stable for at least 5 years when stored as recommended. It is available in various sizes to aid laboratory- to manufacture-scale purifications.

Chelex 100 Resin

Features

- Chromatography type: weak cation exchanger
- Has a stronger selectivity for copper, iron, and other heavy metal ions over monovalent cations such as sodium and potassium
- Selectivity for metal cations corresponds to that of iminodiacetic acid
- Selectivity for divalent over monovalent ions is approximately 5,000 to 1
- Has a strong attraction for transition metals, even in highly concentrated salt solutions
- Available in 3 formats
 - Analytical grade: exhaustively sized, purified, and converted to make it suitable for accurate, reproducible analytical techniques
 - Biotechnology grade: analytical grade resin certified to contain fewer than 100 microorganisms per gram of resin
 - Molecular biology grade: certified to be free of endo- and exonucleases and ligase inhibitors
- Usually used in batch processes

Chelex 100 Technical Specification

Functional group	R-CH ₂ N(CH ₂ COO ⁻) ₂
Particle size range	75–150 µm 150–300 µm 300–1,180 µm
Total ionic capacity	0.4 meq/ml (defined as Cu(NH ₃) ₄ ²⁺ uptake)
Recommended linear flow rate	≥20 cm/min (separations of strong cations from weak cations) <4 cm/min (separations of similar species)

Applications

- Analysis of trace metals in natural waters, reagents, biochemicals, and physiological fluids
- Removal of trace metals from reagents, biochemicals, physiological fluids, culture media, soils, and enzyme systems
- Recovery of metals from process streams
- Chromatography of closely related metals

Additional Information

Usage of Chelex-100, [bulletin LIT200](#)

All Chelex Resins come with regulatory support. Large bulk volumes and special packaging for industrial applications are available on request.

For technical/product support or to request a quote, email your regional Bio-Rad representative or contact customer service at 1-800-4-BIORAD (1-800-424-6723).

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Visit [bio-rad.com/web/Chelex](https://www.bio-rad.com/web/Chelex) for more information and download our Process Resin Selection Guide ([bulletin 6713](#)) for technical and ordering information.

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