

Product Information

99408 Chloride ionophore I – Cocktail A

(Chloride-selective membrane solution for microelectrodes)

Selectophore®

Electrochemical Transduction

Microelectrodes

Application 1 and Sensor Type^{1,2}

Assay of Cl⁻ in intracellular liquids with Cl⁻-selective microelectrodes based on Chloride ionophore I.

Chloride ionophore I-Cocktail A ([99408](#))

Cocktail Composition

- 5.00 wt% Chloride ionophore I ([24897](#))
- 4.00 wt% 1-Decanol ([30608](#))
- 1.00 wt% Tetradodecylammonium tetrakis(4-chlorophenyl)borate (ETH 500) ([87255](#))
- 90.00 wt% 2-Nitrophenyl octyl ether ([73732](#))

Electrode Characteristics and Function

Selectivity coefficients $\log K_{Cl,X}^{Pot}$ as obtained by the separate solution method (0.1 M solution of the sodium salts).

$\log K_{Cl,HCO_3}^{Pot}$	-1.5	$\log K_{Cl,Salicylate}^{Pot}$	3.0
$\log K_{Cl,OAc}^{Pot}$	-1.3	$\log K_{Cl,SCN}^{Pot}$	3.4
$\log K_{Cl,SO_4}^{Pot}$	-2.6		

Slope of linear regression: 57.5±0.5 mV/dec (10⁻³ to 3·10⁻¹ M NaCl in 0.01 M Tris/H₂SO₄, pH 7.4)
 Electrical resistance, tip diameter ~1 µm: ~70 MΩ

¹ Transport Properties of Anion-Selective Membranes Based on Cobyrinates and Metalloporphyrin Complexes as Ionophores. M. Huser, W.E. Morf, K. Fluri, K. Seiler, P. Schulthess, W. Simon, Helv. Chim. Acta 73, 1481 (1990).

² A new double-barrelled, ionophore-based microelectrode for chloride ions. Y. Kondo, T. Bührer, K. Seiler, E. Frömter, W. Simon, Pflügers Arch. 414, 663 (1989).

