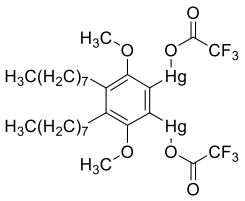
Product Information



24901 Chloride ionophore II

(ETH 9009; 4,5-Dimethyl-3,6-dioctyloxy-*o*-phenylene-bis(mercurytrifluoroacetate)
Selectophore®, function tested

Electrochemical Transduction

Ion-selective Electrodes

Application 1 and Sensor Type[1,2]

Assay of Cl^- activity with solvent polymeric membrane electrode based on Chloride ionophore II.

Recommended Membrane Composition

2.00 wt%	Chloride ionophore II (24901)
0.03 wt%	Tridodecylmethylammonium chloride (91661)
64.97 wt%	Bis(2-ethylhexyl) sebacate (84818)
33.00 wt%	Poly(vinyl chloride) high molecular weight (81392)

Recommended Cell Assembly

Reference || sample solution || liquid membrane | 0.01 M NaCl | AgCl, Ag

Electrode Characteristics and Function

Selectivity coefficients $\log K_{Cl,X}^{Pot}$ as obtained by the separate solution method (0.1 M of the solutions of the sodium salts, pH 7.4 Tris, H_2SO_4).

	Found	Required[a)]
$\log K_{Cl,Br}^{Pot}$	0	<-0.7
$\log K_{Cl,SCN}^{Pot}$	-0.2	<-0.8
$\log K_{Cl,Salicylate}^{Pot}$	-0.4	<-0.3
$\log K_{Cl,CO_3}^{Pot}$	-5.5	<-1.4
$\log K_{Cl,HPO_4}^{Pot}$	-5.9	<-1.2
$\log K_{Cl,SO_4}^{Pot}$	-6.3	<-1.3
$\log K_{Cl,F}^{Pot}$	-5.4	
$\log K_{Cl,OAc}^{Pot}$	-5.1	
$\log K_{Cl,NO_3}^{Pot}$	-3.2	
$\log K_{Cl,ClO_3}^{Pot}$	-1.8	

[a)] measurement in whole blood, plasma and serum (1% interference, worst case)

Slope of linear regression:	-57.6±1.2 mV (10^{-5} to 10^{-1} M NaCl)
Detection limit:	10^{-5} M NaCl
Stability:	Standard deviation: 0.16 mV (0.01 M NaCl)
Drift:	<1.5 mV/h
Response time:	90% response time: 9.5 s

[1] Chloride-selective electrodes based on mercury organic compounds as neutral carriers. M. Rothmaier, W. Simon, Anal. Chim. Acta 271, 135 (1993).
[2] Results with Chloride Selective Liquid Membrane Electrodes. H.J. Marsoner, Chr. Ritter, M. Ghahramani, TFCC Workshop, Helsinki 1985.