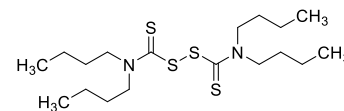


Product Information



96491 Zinc ionophore I

(Tetra-n-butylthiuram disulfide)
Selectophore®, function tested

Electrochemical Transduction

Ion-Selective Electrodes

Application 1 and Sensor Type¹

Assay of Zn^{2+} activity in aqueous solution with solvent polymeric membrane electrode based on Zinc ionophore I.

Recommended Membrane Composition

- 5.36 wt% Zinc ionophore I ([96491](#))
- 53.62 wt% 2-Nitrophenyl octyl ether ([73732](#))
- 0.80 wt% Potassium tetrakis(4-chlorophenyl)borate ([60591](#))
- 40.22 wt% Poly(vinyl chloride) high molecular weight ([81392](#))

Recommended Cell Assembly

Reference || sample solution || liquid membrane | 0.001 M ZnCl_2 | AgCl, Ag

Electrode Characteristics and Function

Selectivity coefficients $\log K_{\text{Zn},M}^{\text{Pot}}$ as obtained by the separate solution method.

$\log K_{\text{Zn},\text{Mg}}^{\text{Pot}}$	-3.14	$\log K_{\text{Zn},\text{Co}}^{\text{Pot}}$	-1.48
$\log K_{\text{Zn},\text{Ca}}^{\text{Pot}}$	-2.83	$\log K_{\text{Zn},\text{Ni}}^{\text{Pot}}$	-1.42
$\log K_{\text{Zn},\text{Mn}}^{\text{Pot}}$	-2.08	$\log K_{\text{Zn},\text{Cu}}^{\text{Pot}}$	0.96
$\log K_{\text{Zn},\text{Pb}}^{\text{Pot}}$	0.78	$\log K_{\text{Zn},\text{K}}^{\text{Pot}}$	-3.77
$\log K_{\text{Zn},\text{Fe}}^{\text{Pot}}$	-2.42	$\log K_{\text{Zn},\text{NH}_4}^{\text{Pot}}$	-3.24
$\log K_{\text{Zn},\text{Na}}^{\text{Pot}}$	-3.28		

Slope of linear regression:	28 mV/dec (10^{-6} to 10^{-1} M $\text{Zn}(\text{NO}_3)_2$)
Practical pH measuring range:	3.5-6.5 (pH 10 when adjusted with $\text{NH}_4\text{Cl}/\text{NH}_3$ buffer)
Detection limit:	$4.2 \cdot 10^{-7}$ M Zn^{2+}
Response time:	2-10 s

¹ Zinc-Selective Membrane Electrodes Using Tetrabutyl Thiuram Disulfide Neutral Carrier. R. Kojima, S. Kamata, Anal. Sci. 10, 409 (1994).

