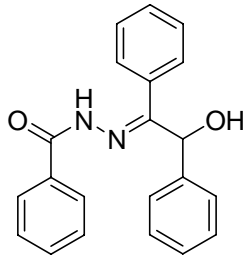


Erbium



Erbium(III) ionophore I

(*N'*-(2-hydroxy-1,2-diphenylethylidene)benzohydrazide)
C₂₁H₁₈N₂O₂ Mr 330.38 [104662-64-8]

[40444](#) Selectophore[®], function tested 50 mg

Electrochemical Transduction

- Ion-Selective Electrodes

Electrochemical Transduction

Ion-Selective Electrodes

Application 1 and Sensor Type¹

Assay of Er^{3+} activity in aqueous solution with polymeric membrane electrodes based on Erbium(III) ionophore I.

Recommended Membrane Composition

5.0	wt%	Erbium(III) ionophore I (40444)
3.0	wt%	Potassium tetrakis(4-chlorophenyl)borate (KTpCIPB) (60591)
62.0	wt%	2-Nitrophenyl octyl ether (NPOE) (73732)
30.0	wt%	Poly(vinyl chloride) high molecular weight (81392)

Recommended Cell Assembly

Reference || sample solution || liquid membrane | 0.001 M ErCl_3 | AgCl, Ag

Electrode Characteristics

Selectivity coefficients $\log K_{\text{Er}, \text{M}}^{\text{Pot}}$ as obtained by the single solution method (0.01 M solution of the nitrate salts).

$\log K_{\text{Er}, \text{Ce}}^{\text{Pot}}$	+2.1	$\log K_{\text{Er}, \text{Ca}}^{\text{Pot}}$	-2.6
$\log K_{\text{Er}, \text{La}}^{\text{Pot}}$	+1.7	$\log K_{\text{Er}, \text{Cu}}^{\text{Pot}}$	-2.5
$\log K_{\text{Er}, \text{Mg}}^{\text{Pot}}$	-2.4		

Slope: 15.5 mV/dec ($4 \cdot 10^{-7}$ to $2 \cdot 10^{-4}$ M $\text{Er}(\text{NO}_3)_3$)
 Detection level: $2 \cdot 10^{-7}$ mol/L

¹ M.R. Ganjali, F. Faridbod, P. Norouzi, M. Adib, A novel Er(III) sensor based on a new hydrazone for the monitoring of Er(III) ions. **Sensors and Actuators B** **120**, 119 (2006).