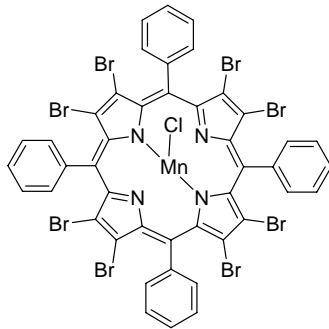


Thiocyanate



Thiocyanate ionophore I

(Rhodanide Ionophore; 2,3,7,8,12,13,17,18-Octabromotetraphenylporphyrin manganese(III) chloride complex)

$C_{44}H_{20}Br_8ClMnN_4$ $M_r = 1334.28$ [198570-19-3]

[05299](#) **Selectophore[®], function tested** 50 mg

Electrochemical Transduction

- Ion-Selective Electrodes

Electrochemical Transduction

Ion-Selective Electrodes

Application 1 and Sensor Type¹

Assay of SCN⁻ activity with solvent polymeric membrane electrode based on Thiocyanate ionophore I.

Recommended Membrane Composition

1.2	wt%	Thiocyanate ionophore I (05299)
49.4	wt%	Bis(2-ethylhexyl) sebacate (BEHS) (84818)
49.4	wt%	Poly(vinyl chloride) high molecular weight (81392)

Recommended Cell Assembly

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

Electrode Characteristics and Function

Selectivity coefficients $\log K_{\text{SCN, X}}^{\text{Pot}}$ as obtained by the separate solution method (in 0.1 M sodium salts, 0.07M H₃PO₄-NaOH)

$\log K_{\text{SCN, NO}_3}^{\text{Pot}}$	-15.1	$\log K_{\text{SCN, SO}_4}^{\text{Pot}}$	1.5
$\log K_{\text{SO}_4, \text{Cl}}^{\text{Pot}}$	-16.3	$\log K_{\text{SCN, ClO}_4}^{\text{Pot}}$	-11.9
$\log K_{\text{SO}_4, \text{Br}}^{\text{Pot}}$	-25.6	$\log K_{\text{SO}_4, \text{Acetate}}^{\text{Pot}}$	-8.4

Slope of linear regression: -45.6 mV/dec (9•10⁻⁶ to 5•10⁻² M SCN⁻)

Detection limit: 7.4•10⁻⁶ M SCN⁻

¹ M.Shamsipur, G.Khayatian, S.Tangestaninejad, Thiocyanate-Selective Membrane Electrode Based on (Octabromotetraphenylporphyrinato)manganese (III) Chloride, **Electroanalysis** **11**, 1340 (1999).