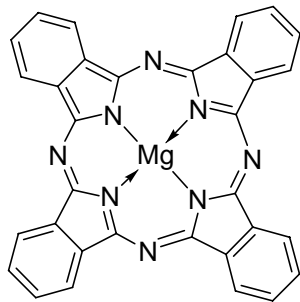


Cyanide



Cyanide ionophore II

(Magnesium phthalocyanine, Phthalocyanine magnesium salt)
 $C_{32}H_{16}MgN_8$ M_r 536.83 [1661-03-6]

[40585](#) **Selectophore[®], function tested** 50 mg

Electrochemical Transduction

- Ion-Selective Electrodes

Electrochemical Transduction

Ion-Selective Electrodes

Application 1 and Sensor Type ¹

Assay of CN⁻ activity with solvent polymeric membrane electrode based on Cyanide ionophore II.

Recommended Membrane Composition

1.5	wt%	Cyanide ionophore II (40585)
0.5	wt%	Tridodecylmethylammonium chloride (91661)
64.4	wt%	2-Nitrophenyl octyl ether (NPOE) (73732)
33.6	wt%	Poly(vinyl chloride) high molecular weight (81392)

Recommended Cell Assembly

Reference || sample solution || liquid membrane | 0.01 M K[Ag(CN)₂], 0.01 M KCl | AgCl, Ag

Electrode Characteristics and Function

Selectivity coefficients $\log K_{\text{CN, X}}^{\text{Pot}}$ as obtained by the separate solution method (10⁻³ M solutions of the potassium salts, pH 6.5 (10⁻² M acetate buffer solution))

$\log K_{\text{CN, HPO}_4}^{\text{Pot}}$	-4.55	$\log K_{\text{CN, F}}^{\text{Pot}}$	-3.27
$\log K_{\text{CN, S}_2\text{O}_3}^{\text{Pot}}$	-4.79	$\log K_{\text{CN, Cl}}^{\text{Pot}}$	-3.10
$\log K_{\text{CN, SO}_3}^{\text{Pot}}$	-4.80	$\log K_{\text{CN, Br}}^{\text{Pot}}$	-3.10
$\log K_{\text{CN, SO}_4}^{\text{Pot}}$	-4.81	$\log K_{\text{CN, I}}^{\text{Pot}}$	-2.66
$\log K_{\text{CN, S}}^{\text{Pot}}$	-3.59	$\log K_{\text{CN, ClO}_3}^{\text{Pot}}$	-3.30
$\log K_{\text{CN, NO}_2}^{\text{Pot}}$	-3.31	$\log K_{\text{CN, BrO}_3}^{\text{Pot}}$	-3.32
$\log K_{\text{CN, NO}_3}^{\text{Pot}}$	-3.27	$\log K_{\text{CN, IO}_3}^{\text{Pot}}$	-2.35
$\log K_{\text{CN, SCN}}^{\text{Pot}}$	-2.69		

Slope of linear regression: -59.8±0.6 mV (10⁻⁵ to 10⁻¹ M K[Ag(CN)₂])

Linear range: 1.0 • 10⁻⁵ to 1.0 • 10⁻¹ M

Detection limit: 7 • 10⁻⁶ M

Life span: 8 weeks

¹ S. Hassan, S. Marzouk, A. Mohamed, N. Badawy, Novel Dicyanoargentate Polymeric Membrane Sensors for Selective Determination of Cyanide Ions. **Electroanalysis** **16**, No.4, 298 (2004).