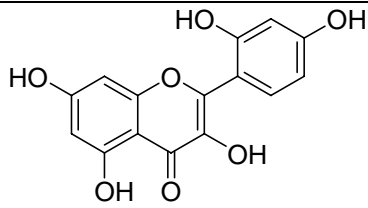


## Aluminum



### Aluminum ionophore I

(Morin)

$C_{15}H_{10}O_7$

$M_r$  302.24

[480-16-0]

[55593](#)

Selectophore<sup>®</sup>, function tested

50 mg

## Electrochemical Transduction

- Ion-Selective Electrodes

## Electrochemical Transduction

### Ion-Selective Electrodes

#### Application 1 and Sensor Type <sup>1</sup>

Assay of Al<sup>3+</sup> activity in aqueous solution with solvent polymeric membrane electrode based on Aluminum ionophore I.

#### Recommended Membrane Composition

1.6	wt%	Aluminum ionophore I ( <a href="#">55593</a> )
48.4	wt%	Tributyl phosphate ( <a href="#">90818</a> )
1.6	wt%	Sodium tetraphenylborate (NaTPB) ( <a href="#">72018</a> )
48.4	wt%	Poly(vinyl chloride) high molecular weight ( <a href="#">81392</a> )

#### Recommended Cell Assembly

Reference || sample solution || liquid membrane | 0.1 M Al(NO<sub>3</sub>)<sub>3</sub> | AgCl, Ag

#### Electrode Characteristics and Function

Selectivity coefficients  $\log K_{Al, M}^{Pot}$  as obtained by the matched potential method at pH 4-5. The prepared membranes were equilibrated 3 days in 0.5 M Al(NO<sub>3</sub>)<sub>3</sub>.

$\log K_{Al, K}^{Pot}$	-3.0	$\log K_{Al, Hg}^{Pot}$	-4.0
$\log K_{Al, Na}^{Pot}$	-2.8	$\log K_{Al, Ni}^{Pot}$	-3.7
$\log K_{Al, NH_4}^{Pot}$	-2.9	$\log K_{Al, Zn}^{Pot}$	-3.6
$\log K_{Al, Cd}^{Pot}$	-3.3	$\log K_{Al, Co}^{Pot}$	-3.4
$\log K_{Al, Pb}^{Pot}$	-3.1	$\log K_{Al, Fe}^{Pot}$	-2.4
$\log K_{Al, Cu}^{Pot}$	-3.9	$\log K_{Al, Cr}^{Pot}$	-2.7
$\log K_{Al, Mn}^{Pot}$	-3.6		

Slope of linear regression: 19.7 mV/dec (5.0•10<sup>-7</sup> to 1.0•10<sup>-1</sup> M Al(NO<sub>3</sub>)<sub>3</sub>)

Detection limit: 3.2•10<sup>-7</sup> M Al<sup>3+</sup>

Lifetime: >2 months

<sup>1</sup> V.K. Gupta, A.K. Jain, G. Maheshwari, Aluminum(III) selective potentiometric sensor based on morin in poly(vinyl chloride) matrix. **Talanta** **72**, 1469 (2007).