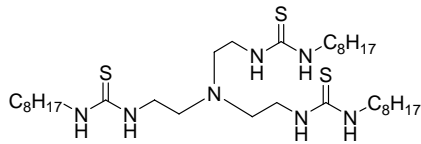


## Salicylate



### Salicylate ionophore II

(*N*-Octyl-5-[2-[[[(octylamino)thioxomethyl]amino]ethyl]-9-thioxo-2,5,8,10-tetrazaoctadecanethioamide)

C<sub>33</sub>H<sub>69</sub>N<sub>7</sub>S<sub>3</sub>    M, 660.14    [1005344-82-0]

[68813](#)    **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>

Determination of salicylate activity with solvent polymeric membrane electrodes based on Salicylate ionophore II.

#### Recommended Membrane Composition

1.1	wt%	Salicylate ionophore II ( <a href="#">68813</a> )
66.0	wt%	Bis(2-ethylhexyl)adipate (BEHA) ( <a href="#">02138</a> )
32.9	wt%	Poly(vinyl chloride) high molecular weight ( <a href="#">81392</a> )

#### Recommended Cell Assembly

Reference || sample solution || ion-selective membrane | salicylate (0.01 M), phosphate buffer pH 7.0 (NaH<sub>2</sub>PO<sub>4</sub> (0.1 M) + Na<sub>2</sub>HPO<sub>4</sub> (0.1 M) + NaCl (0.01 M)) | AgCl, Ag

#### Electrode Characteristics and Function

Selectivity coefficients  $\log K_{\text{Salicylate, X}}^{\text{Pot}}$  as obtained by the modified separate solution method (0.1 M solutions in phosphate buffer pH 7.0).

$\log K_{\text{Salicylate, ClO}_4}^{\text{Pot}}$	-0.9	$\log K_{\text{Salicylate, Maleate}}^{\text{Pot}}$	-2.4
$\log K_{\text{Salicylate, I}}^{\text{Pot}}$	-1.3	$\log K_{\text{Salicylate, Lactate}}^{\text{Pot}}$	-2.6
$\log K_{\text{Salicylate, NO}_3}^{\text{Pot}}$	-2.1	$\log K_{\text{Salicylate, Acetate}}^{\text{Pot}}$	-2.6
$\log K_{\text{Salicylate, NO}_2}^{\text{Pot}}$	-2.3	$\log K_{\text{Salicylate, Fumarate}}^{\text{Pot}}$	-2.8
$\log K_{\text{Salicylate, HCO}_3}^{\text{Pot}}$	-2.2	$\log K_{\text{Salicylate, Benzoate}}^{\text{Pot}}$	-1.2

Slope of linear regression: -62.8 mV/dec (measured in phosphate buffer solution pH 7.0)

Linear Range:  $3 \cdot 10^{-4}$  to 0.07 M

Detection limit:  $1 \cdot 10^{-4}$  M

Practical pH measuring range: 3-9

<sup>1</sup> C. Lee, J. Kim, D.W. Kim, S. S. Lee, J. Kim, J.S. Kim, Salicylate-Selective Electrodes Based on Tripodal Tris-thiourea Derivatives. **Bull. Korean Chem. Soc.** **28**, 2466 (2007).