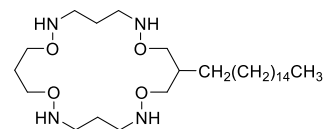


Product Information



07295 Nitrate ionophore VI

(9-Hexadecyl-1,7,11,17-tetraoxa-2,6,12,16-tetraazacycloeicosane)

Selectophore®, function tested

Electrochemical Transduction

Ion-Selective Electrodes

Application 1 and Sensor Type¹

A novel membrane sensor based on Nitrate ionophore VI shows superior characteristics over all existing nitrate ionophores. The electrode can be used for FIA of nitrate in environmental, food and physiological samples.

Recommended Membrane Composition

5.2 wt%	Nitrate ionophore VI (07295)
47.0 wt%	Dibutyl phthalate (80100)
0.3 wt%	Tetraoctylammonium chloride (87991)
47.2 wt%	Poly(vinyl chloride) high molecular weight (81392)

Recommended Cell Assembly

Reference || sample solution || liquid membrane | 0.01 M KNO₃ | AgCl, Ag

Electrode Characteristics and Function

Selectivity coefficients $\log K_{NO_3, X}^{Pot}$ as obtained by the separate solution method in (0.1 M solutions of the sodium salts, pH 8.4).

$\log K_{NO_3, Cl}^{Pot}$	-2.5	$\log K_{NO_3, HCO_3}^{Pot}$	-3.2
$\log K_{NO_3, Br}^{Pot}$	-1.1	$\log K_{NO_3, SO_4}^{Pot}$	-4.5
$\log K_{NO_3, SCN}^{Pot}$	1.5	$\log K_{NO_3, H_2PO_4}^{Pot}$	-4.4
$\log K_{NO_3, OAc}^{Pot}$	-3.2	$\log K_{NO_3, NO_2}^{Pot}$	-1.2

Slope of linear regression:	-57.2 mV/dec ($4 \cdot 10^{-6}$ to $1 \cdot 10^{-1}$ M KNO ₃)
Detection limit:	$3 \cdot 10^{-6}$ M NO ₃ ⁻ (<200 µg NO ₃ ⁻ /L)
Lipophilicity (ionophore):	$\log P = 8.3$ (calc.)
Response time:	3 s

¹ Unpublished, application tests performed at CCS, Wädenswil, Switzerland.

