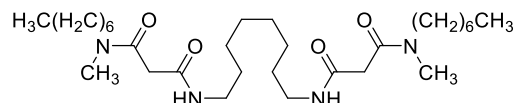


Product Information



63086 Magnesium ionophore III

(ETH 4030; N,N'-Octamethylenebis(N'-heptyl-N'-methylmalonamide)
Selectophore®, function tested

Electrochemical Transduction

Ion-Selective Electrodes

Application 1 and Sensor Type^{1,2}

Assay of Mg²⁺ activity in blood by chemometric procedures and determination of water hardness with solvent polymeric membrane electrodes based on Magnesium Ionophore III.

Recommended Membrane Composition

- 0.99 wt% Magnesium Ionophore III ([63086](#))
- 0.64 wt% Potassium tetrakis(4-chlorophenyl)borate ([60591](#))
- 65.58 wt% Chloroparaffin (60% Chlorine) ([25720](#))
- 32.79 wt% Poly(vinyl chloride) high molecular weight ([81392](#))

Recommended Cell Assembly

Reference || sample solution || ion-selective membrane | 0.01 M MgCl₂ | Ag, AgCl

Electrode Characteristics and Function

Selectivity coefficients $\log K_{Mg,M}^{Pot}$ determined by the separate solution method (0.1 M solution of the chlorides).

$\log K_{Mg,H}^{Pot}$	1.7	$\log K_{Mg,K}^{Pot}$	-3.7
$\log K_{Mg,Li}^{Pot}$	-3.1	$\log K_{Mg,Ca}^{Pot}$	0
$\log K_{Mg,Na}^{Pot}$	-3.8		

Slope of linear regression: 28 mV for Mg²⁺ and 28.3 mV for Ca²⁺ at 21°C (10⁻³ to 10⁻¹ M chlorides)
 Detection limit: $\log a_{Mg}$, $\log a_{Ca} \sim -6.0$
 Response time: 95% response time 0.9 s

¹ Magnesium Selective Electrodes for Blood Serum Studies and Water Hardness Measurement. M. Müller, M. Rouilly, B. Rusterholz, M. Maj-Zurawska, Z. Hu, W. Simon, Mikrochim. Acta III, 283 (1988).

² Determination of Magnesium and Calcium in Water with Ion-selective Electrodes. M. Maj-Zurawska, M. Rouilly, W. E. Morf, W. Simon, Anal. Chim. Acta 218, 47 (1989).

