



The ELIT Na071 Sodium ISE is a Combination Electrode with Glass body and Glass membrane.

The main advantage over the ELIT PVC membrane ISE is that the Na glass is far less sensitive to other ions. For example, the Selectivity Coefficient for K is only about 0.0006 compared to 0.6 for the PVC. It does not require a separate reference electrode.



Specifications:

•Detected Ion:	Sodium (Na ⁺)	•Measuring Range:	0.023-23,000 ppm (10 ⁻⁶ to 0.1 M)
•Sensor:	Na sensitive glass	•Temperature Range:	20 °C – 40 °C
•Reference System:	Ag/AgCl	•pH Range:	10 -14 pH
•Combination:	Yes	•Slope:	56 ± 5 mV
•Refillable:	Yes	•Resistance:	< 250 M ohm
•Body:	Glass	•Reproducibility:	<= 3 mV
•Cable length:	1 metre	•Response Time:	<= 3 minutes
•Connector:	BNC	•	
•Dimension:	12 x 160 mm	•	

Reagents required

Electrode Filling Solution 2M NH₄Cl

Ionic Strength Adjuster (ISA): 4M NH₄Cl / 4M NH₄OH - Dissolve 214g NH₄Cl in water.

Add 270ml 14.5M NH₄OH and make up to 1 litre. Add 2ml to 100ml of all standards and samples.

Standard Solution: 1000ppm Na - Dissolve 2.542g anhydrous sodium chloride in 1 litre water.

Storage Solution: 5M NaCl - Dissolve 292g in water + 20ml ISA, make up to 1litre

For preconditioning and overnight or longer storage.

Rinse solution: Dilute ISA 20ml to 1 litre. Use to wash electrode between samples and for short - term storage. **WARNNG: The Glass membrane Na electrode must not be immersed in pure water or left in air.**

Operating Notes:

The basic operation is the same as for all ELIT ISEs as described in the General Operating Instructions <http://www.nico2000.net/datasheets/OPinstr4electrodes.htm> but special precautions are necessary to preserve and protect the glass membrane.

1. On first use, and periodically during use, the glass body and bulb must be checked to make sure it is completely filled with electrolyte. If low it should be topped up with **Filling solution**. Also check that there are no visible air bubbles in the electrolyte. If there are, shake the electrode downwards with a flick of the wrist to force air bubbles out of the glass bulb, then soak the electrode in the **Storage solution** for 8 hours.
2. The optimum pH range for measurement is pH 10-14. Adding **ISA** to all solutions ensures this.
3. Make sure that the samples and standards are at the same temperature.
4. The electrode should be rinsed with a jet of **Rinse solution** from a wash-bottle (not Deionised water) and kept in the Rinse solution between measurements, and in the **Storage solution** overnight. For longer storage it can be stored dry with the electrolyte removed and the protective cap securely covering the glass bulb.
5. Take readings in gently stirred solutions with a magnetic stirrer – but beware of heat transfer from the stirrer.

NICO 2000 Ltd
London, U.K.

sales@nico2000.net www.nico2000.net

Last Update: 06 Feb. 2017