

# ISE Solutions

Solutions Designed for our ISE Electrodes



## HANNA ISE Standards

Our wide selection of HANNA ISE Standards are made and bottled in our own state-of-the-art solutions facility. ISE Standards are required for direct and incremental measurement techniques and are available with Certificate of Analysis.

CODE	DESCRIPTION	SIZE
HI 4001-01	0.1 M ammonia std.	500 mL
HI 4001-02	100 ppm ammonia std. (as N)	500 mL
HI 4001-03	1000 ppm ammonia std. (as N)	500 mL
HI 4002-01	0.1 M bromide std.	500 mL
HI 4003-01	0.1 M cadmium std.	500 mL
HI 4004-01	0.1 M calcium std.	500 mL
HI 4005-01	0.1 M carbon dioxide std.	500 mL
HI 4005-03	1000 ppm carbon dioxide std. (as CaCO <sub>3</sub> )	500 mL
HI 4007-01	0.1 M chloride std.	500 mL
HI 4007-02	100 ppm chloride std.	500 mL
HI 4007-03	1000 ppm chloride std.	500 mL
HI 4008-01	0.1 M cupric std.	500 mL
HI 4010-01	0.1 M fluoride std.	500 mL
HI 4010-02	100 ppm fluoride std.	500 mL
HI 4010-03	1000 ppm fluoride std.	500 mL
HI 4010-10	10 ppm fluoride std. premixed with TISAB II	500 mL
HI 4010-11	1 ppm fluoride std. premixed with TISAB II	500 mL
HI 4010-12	2 ppm fluoride std. premixed with TISAB II	500 mL
HI 4010-30	(4) 1 ppm, (4) 10 ppm fluoride std. with (4) TISAB II	500 mL
HI 4011-01	0.1 M iodide std.	500 mL
HI 4012-01	0.1 M lead std.	500 mL
HI 4012-21	0.1 M sulfate std.	500 mL
HI 4013-01	0.1 M nitrate std.	500 mL
HI 4013-02	100 ppm nitrate std.	500 mL
HI 4013-03	1000 ppm nitrate std.	500 mL
HI 4014-01	0.1 M potassium std.	500 mL
HI 4015-01	0.1 M silver std.	500 mL

## HANNA Gas Sensor Fill Solutions

CODE	DESCRIPTION	SIZE
HI 4001-40	Ammonia filling solution	(4) 30 mL bottles
HI 4005-40	Carbon dioxide filling solution	(4) 30 mL bottles

## Specific "Solutions" for ISE Sensors

CODE	DESCRIPTION	SIZE
HI 4000-47	pH 4 and pH 7 buffers with chloride background. Used to check glass internal of gas sensors.	10 packages ea. and 2 beakers
HI 4001-45	Conditioning solution for HI 4101	500 mL
HI 4004-45	Conditioning Solution for calcium electrodes	500 mL
HI 4005-45	Conditioning Solution for HI 4105	500 mL





## Ionic Strength Adjusters (ISA)

HANNA Ionic Strength Adjusters (ISA) are formulated to provide a constant ionic strength in sample and standards alike, thus permitting concentration rather than activity measurements to be made. In some cases ISA's adjust pH and eliminate matrix effects.

CODE	DESCRIPTION	SIZE
HI 4000-00	ISA for halide electrodes	500 mL
HI 4001-00	Alkaline ISA for ammonia/cyanide	500 mL
HI 4004-00	Calcium ISA	500 mL
HI 4005-00	Carbon dioxide ISA	500mL
HI 4010-00	TISAB II (for fluoride)	500 mL
HI 4010-05	TISAB II (for fluoride)	1 gallon
HI 4010-06	TISAB III concentrate (for fluoride)	500 mL
HI 4012-00	Lead or sulfate ISA	500 mL
HI 4013-00	Nitrate ISA	500 mL
HI 4013-06	Nitrate interferent suppressant ISA	500 mL
HI 4014-00	Potassium ISA	500 mL
HI 4015-00	SAOB (sulfide antioxidant buffer)	500 mL, 1pkg (2 components)

## HANNA Accessories

HANNA replacement parts and accessories keep your measurements fast and accurate.

CODE	DESCRIPTION
HI 4000-50	Liquid membrane sensor handle
HI 4000-51	Gas sensor replacement pH for Ammonia Sensor
HI 4000-52	Gas sensor membrane cap for Ammonia
HI 4000-54	Gas sensor replacement pH for Carbon Dioxide Sensor
HI 4000-70	Halide polishing strip
HI 4001-51	Ammonia membrane kit (20 loose)
HI 4004-51	Calcium module for half-cell
HI 4104-51	Calcium module for combination
HI 4005-53	Carbon dioxide membrane kit (3 caps)
HI 4110-51	Fluoride module for combination electrode
HI 4013-53	Nitrate module 3 pack for half-cell
HI 4113-53	Nitrate module 3 pack for combination
HI 4014-51	Potassium module for half-cell
HI 4114-51	Potassium module for combination
HI 740155P	Capillary pipettes (20 pcs)
HI 740159	Plastic tweezers

## HANNA Silver-free Reference Fill Solutions

Recommended for our Combination ISE Electrodes and the HANNA HI 5315 reference electrode. Reference electrodes should be topped off daily with the correct filling solution for optimum measurement performance. These solutions are silver free to eliminate silver precipitates found with standard electrolytes.

CODE	DESCRIPTION	SIZE
HI 7072	Electrolyte solution, 1 M KNO <sub>3</sub>	(4) 30 mL bottles
HI 7075	Electrolyte solution with KNO <sub>3</sub> and KCl	(4) 30 mL bottles
HI 7076	Electrolyte solution, 1 M NaCl	(4) 30 mL bottles
HI 7078	Electrolyte solution, (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>	(4) 30 mL bottles
HI 7082	Electrolyte solution, 3.5 M KCl	(4) 30 mL bottles