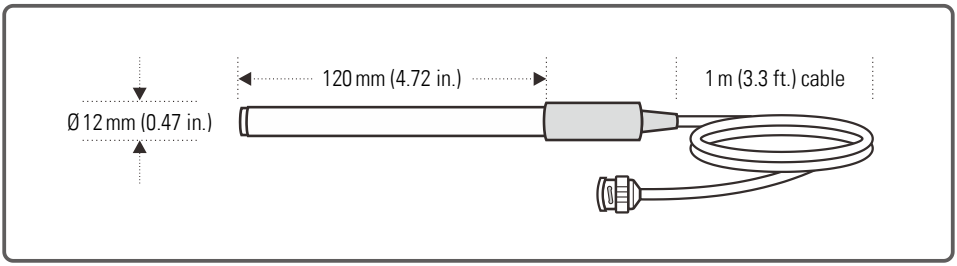
Sulfide

Ion Selective Electrode | User Guide

This ion selective electrode is designed for the detection and analysis of the sulfide ion in aqueous solution and is suitable for laboratory applications.



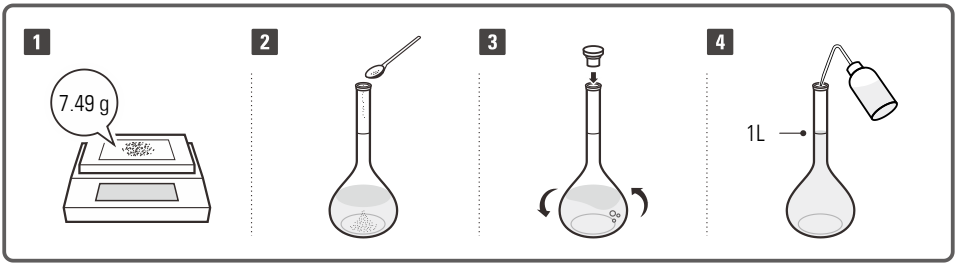
Required Equipment and Solutions

- An ion meter
- Volumetric flasks and beakers

- Distilled or deionized water:
  To prepare the standard solutions or rinse the electrode between measurements.

- Sulfide Anti-Oxidant Buffer (SAOB):
  To prepare this solution, fill approximately 600 ml of distilled water in a 1 liter volumetric flask and add 200 ml of 10M NaOH, 35 grams of ascorbic acid, 67 grams of Di-sodium EDTA. Swirl the volumetric flask gently to dissolve the reagents and fill to the mark with distilled water. Prepare fresh solution every couple of weeks.

- Sulfide Standard Solution 1000 ppm:
  To prepare this standard solution, half fill a 1 liter volumetric flask with distilled water and add 7.49 grams of analytical grade sodium sulfide ($Na_2S \bullet 9H_2O$) reagent. Swirl the volumetric flask gently to dissolve the reagent and fill to the mark with distilled water. Cap and upend the volumetric flask several times to mix the solution.



Prior to Use

1. Remove the protective cap from the bottom of the electrode.
2. Soak the electrode in 100 ppm standard solution for about 10 minutes.

Measurement and Calibration Hints

- Do not use this electrode to measure the strongly acidic or alkaline samples, strong detergents and organic solvents, these solutions will cause permanent damage to the electrode.
- For better accuracy, we recommend to add the SAOB to all of the standards and samples. A typical ratio is 1:1.
- During the calibration and measurement, ensure that all standard and sample solutions are the same temperature.
- The calibration should from the lowest concentration standard to avoid cross contamination.
- The sample solution must fall in the pH range of 13 to 14. If necessary, add the SAOB.
- Stir the standard and sample solutions at a uniform rate that will promoting the accurate of measurement.

1. Calibrate the meter according to the manufacturer's instructions.
2. Rinse the electrode with distilled water and blot dry.
3. Place the electrode into the sample and record the stable reading.

Electrode Maintenance

- Rinse the electrode thoroughly with distilled water after use, wipe clean with a lint-free tissue, then replace protective cap and store the electrode in a dry, cool and well-ventilated area.
- Never touch or scratch the ion sensitive membrane on the bottom of the electrode.
- If the electrode response becomes sluggish, soak the electrode in 100 ppm standard solution for at least 1 hour.

Specifications

Model	ISE-S
Concentration Range	0.003 to 32000 ppm
Slope	24 to 29 mV/decade
pH Range	13 to 14
Interferences	Hg^{2+}, Ag^{+}
Operating Temperature	5 to 50°C (41 to 122°F)
Electrode Dimensions	150 (L) × 12 Ø) mm (5.9 × 0.47 in.)
Cable Length	1 m (3.3 ft.)
Connector	BNC
Body Type	Epoxy

Optional Accessories

Order Code	Description
ION-S	Sulfide standard solution 1000 ppm, 480 ml