



1 6.0421.100 Sb electrode 6.0223.100 Solitrode HF

1.1 General

Immediately after receiving the electrode, check to make sure that it works properly. Electrodes that do not work properly must be sent back for warranty processing within two months (starting from the day of delivery). If the defect is proven to be due to a material or manufacturing defect, the electrode will be replaced at no charge. The transport costs are to the customer's account.



CAUTION

Do not use the ultrasonic bath for electrodes, as they may be damaged by such a treatment.

1.2 General preparations

- Open the closure of the filler opening (1).
- Add the reference electrolyte KCl 3 mol/L up to the filler opening.

Ensure that the filler opening remains open during use.

Always use plastic vessels for samples containing hydrofluoric acid.

Polishing the Sb pin (Sb electrode)

You can polish the Sb pin (3) either using a polishing agent, e.g. Al_2O_3 (6.2802.000), or toothpaste. Proceed as follows:

- Apply the polishing agent to a cloth.
- Moisten the polishing agent with water.

Make sure not to contaminate the diaphragm (2) with polishing agent.

1.3 Scope of application of the Sb electrode

We recommend using the Sb electrode primarily for titration. If you use the Sb electrode for direct measurements, the offset potential of the pH meter must be set to -366 mV. Buffer solutions containing borate may not be used for calibrating the Sb electrode. In addition, make sure that the stirrer is switched off for the measured value acceptance.



CAUTION

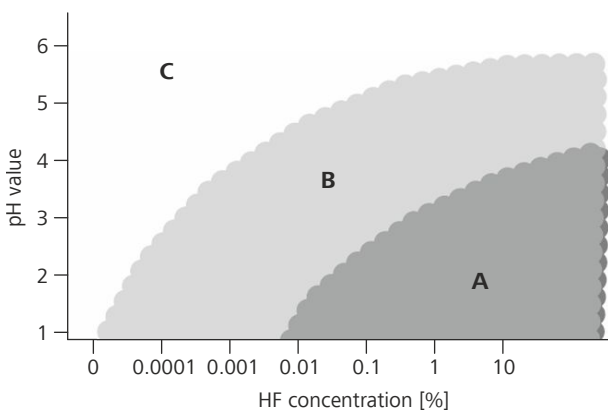
Cross-sensitivity of the Sb electrode

The Sb electrode is not suitable for titrations in solutions that contain complexing agents for Sb^{3+} ions. This applies for example to tartrates, citrates, oxalates and borates. Sulfides act as an electrode poison at concentrations as low as 100 mg/L.

1.4 Scope of application of the Solitrode HF

We recommend using the Solitrode HF for titration. Its advantage compared to the Sb electrode lies in lower cross-sensitivity to other ions and better reproducibility.

The recommended fields of application of the electrodes are illustrated in the following graph.



- A** Sb electrode
- B** Solitrode HF
- C** pH glass electrode

1.5 Storing electrodes

We recommend storing the electrodes with KCl 3 mol/L as reference electrolyte in the storage solution (6.2323.000).

1.6 Troubleshooting

Sb electrode

- The measured value setting is sluggish. Polish the Sb pin (3) either using a polishing agent, e.g. Al_2O_3 (6.2802.000), or toothpaste.

Sb electrode and Solitrode HF

- Solution containing protein. Regularly immerse the electrode for one hour in a 1% pepsin solution in HCl 0.1 mol/L. Then rinse the electrode well with distilled water.
- Solution containing sulfide: In the diaphragm, there is a black precipitate of Ag_2S . Immerse the electrode for one hour in a freshly prepared 7% solution of thiourea in HCl 0.1 mol/L. Then rinse the electrode well with distilled water.
- Air bubbles are trapped in the electrode. Eliminate the air bubbles in the electrode by lightly flinging it downwards.
- The reference electrolyte is dirty or has dried out. Aspirate and replace the electrolyte. If necessary, repeat this process several times.

1.7 Measuring and temperature ranges

Electrode	Measuring range	Temperature range
Sb electrode (6.0421.100)	pH 2 - 11	0 - 70 °C
Solitrone HF (6.0223.100)	pH 1 - 12	0 - 40 °C