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ORP Electrode Maintenance

Before taking into use

When the electrode has a refillable reference chamber, make sure this chamber is always completely filled with the reference electrolyte solution (3...4 M KCl, article code B520 or B020). An electrode that has been stored dry must be immersed for at least ten hours in the reference electrolyte solution.

Storage

During short interruptions (e.g. storage) the electrode should be immersed in the electrolyte solution. In doing this it is always kept ready for use. When the interruption is longer than a month, use a storage bottle filled with the reference electrolyte solution and place it on the electrode tip in order to protect the glass bulb.

ORP Electrode Cleaning

The following procedure will result in removal of many common contaminants from the platinum ORP electrode. Fouling of the electrode can, however, be deployment-specific, and some contaminants from polluted water may not be dissolved by this method. The use of other solvents and reagents may be possible, but they must be selected carefully so as not to damage the reference electrode or combination sensors.

It is recommended that the user perform the cleaning/reconditioning operation in the order indicated. Performance can be rechecked at the conclusion of each major section (A, B, and C) and the cleaning discontinued if, at that point, the performance problem has been corrected.

Procedure A

Soak the probe for 10-15 minutes in clean water containing a few drops of commercial dishwashing liquid. Wipe the platinum button or ring by rubbing with a cotton swab soaked in the cleaning solution. Rinse the probe in clean water, wipe with a cotton swab saturated with clean water, and then re-rinse with clean water.

Procedure B

Soak the probe for 20-30 minutes in one molar (1 M) hydrochloric acid (HCl). This reagent can be purchased from most laboratory supply dealers. Be sure to follow the safety instructions supplied with the reagent. Wipe the platinum button by rubbing with a cotton swab soaked in the acid. Rinse the probe in clean water, wipe with a cotton swab saturated with clean water, then rerinse with clean

water.

Procedure C

Soak the probe for approximately 1-2 hours in a 1 to 1 dilution of commercially available chlorine bleach. Rinse the probe with clean water and then soak for at least 1 hour in clean water to remove residual bleach from the reference junction.

CAUTION

If removal of the chlorine bleach is incomplete, this cleaning reagent can seep into either your calibration standards or measurement media and cause erroneous ORP readings until it is dissipated. Always be careful to achieve a complete removal of the bleach. Soaking the probe in clean water for periods of time longer than 1 hour can do no harm, however, lesser soaking times can cause problems. Place the sensors in Zobell solution and make certain that observed ORP readings stabilize within a few minutes and remain stable for 15-20 minutes.

From:

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Last update: **11/02/2016 07:53**

