

Redox Standards



Summary of Features & Benefits:

- Widest range of values and pack options available in the market
- Extensive technical advice on the measurement techniques available
- Enquiries for customized or bulk options welcome
- All products certified with proven verifiable accuracy and uncertainty of measurement
- Very high specifications ($\pm 5\text{mV}$)
- Detailed Safety Data Sheets available online

During its working life a Redox electrode undergoes no change of zero point or slope. Redox is an absolute measurement expressed in millivolts (unlike pH, which is an artificial logarithmic scale using values of 1 - 14). Therefore, redox electrodes do not require calibration and the standards act as control materials rather than calibration standards. Such control standards not only control the functionality of the sensing and reference electrode, but also control the analyst's technique, environmental conditions and the operation of the measurement meter (pH meter in millivolt mode).

If the measurement of the control material is outside the expected values, it may be due to any or several of the following reasons:

- Poor connections or a short circuit within the electrodes or between the electrodes and meter.
- Incompatibility between the reference electrode and sample, in particular the use of incorrect electrolyte.
- Contamination or poisoning of reference system or reference electrolyte.
- Blocked or contaminated diaphragm.
- Incorrect choice of sensing electrode.

In choosing an electrode, broadly, but not exclusively the analyst can choose between platinum or gold and choose several different options as to how the platinum or gold is configured on the electrode.

Although, platinum is more commonly used, it may give erroneous results in low ionic strength solutions or, when its surface is passivated or roughened. It may also show poor results in strongly oxidizing solutions. On the other hand gold is totally unsuitable in the presence of or due to the formation of gold cyanide or gold halide complexes in the sample. Although substantial guidance is offered in the literature on which metal to use, the specific experience of the user, is the most important determinant of the final choice.

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All values quoted are potentials of Platinum Electrode v Ag/AgCl reference (3M KCl)

Value	Product No. 500ml	Product No. 10L	Product No. 10L Bag-In-Box
124mV @ 25° C	RS124	RS12410	RSB12410
200mV @ 25° C	RS200	RS20010	RSB20010
220mV @ 25° C	RS220	RS22010	RSB22010
250mV @ 25° C	RS250	RS25010	RSB25010
300mV @ 25° C	RS300	RS30010	RSB30010
358mV @ 25° C	RS358	RS35810	RSB35810
400mV @ 25° C	RS400	RS40010	RSB40010
465mV @ 25° C	RS465	RS46510	RSB46510
600mV @ 25° C	RS600	RS60010	RSB60010
650mV @ 25° C	RS650	RS65010	RSB65010