

Silver/silver chloride reference electrode – the ecological alternative for calomel reference electrodes

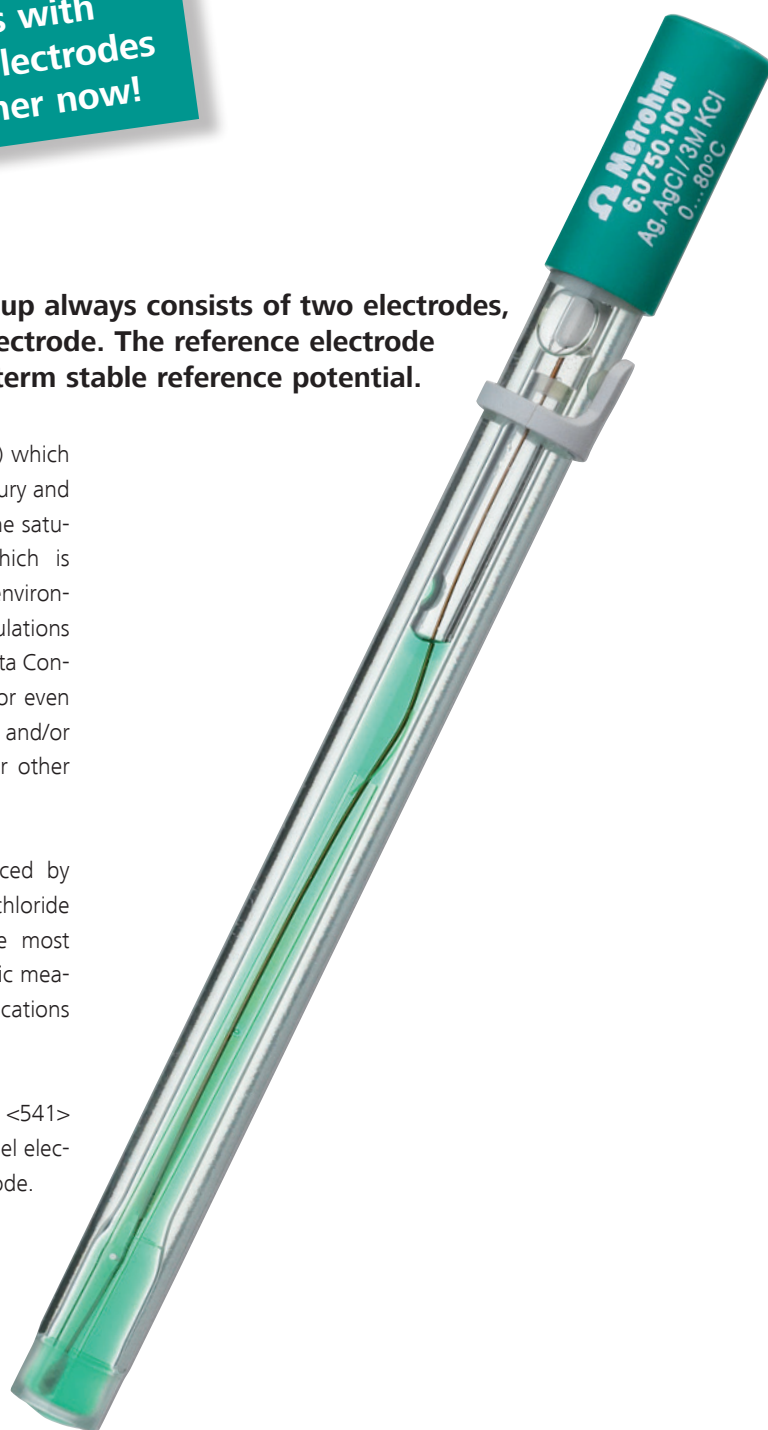
Replace your calomel electrodes with Metrohm silver/silver chloride electrodes and make your chemistry greener now!

In potentiometry the measuring setup always consists of two electrodes, the measuring and the reference electrode. The reference electrode maintains a reproducible and long-term stable reference potential.

In the past, the saturated calomel electrode (SCE) which is based on the reaction between elemental mercury and mercury (I) chloride was used for this purpose. The saturated calomel electrode contains mercury which is known to be a health hazard and harmful to the environment. Therefore mercury is under strong regulations (e.g. «Mercury Export Ban Act of 2008», «Minamata Convention on Mercury (2013)») which complicates or even prohibits the import, production, distribution, and/or export of items containing elemental mercury or other mercury compounds.

Therefore, calomel electrodes have been replaced by silver based reference electrodes. The silver/silver chloride (Ag/AgCl) reference electrode is nowadays the most widely used reference electrode for potentiometric measurement and can be applied for the same applications as the SCE.

The United States Pharmacopeia (USP) monograph <541> Titrimetry even recommends to replace the calomel electrode by the silver/silver chloride reference electrode.

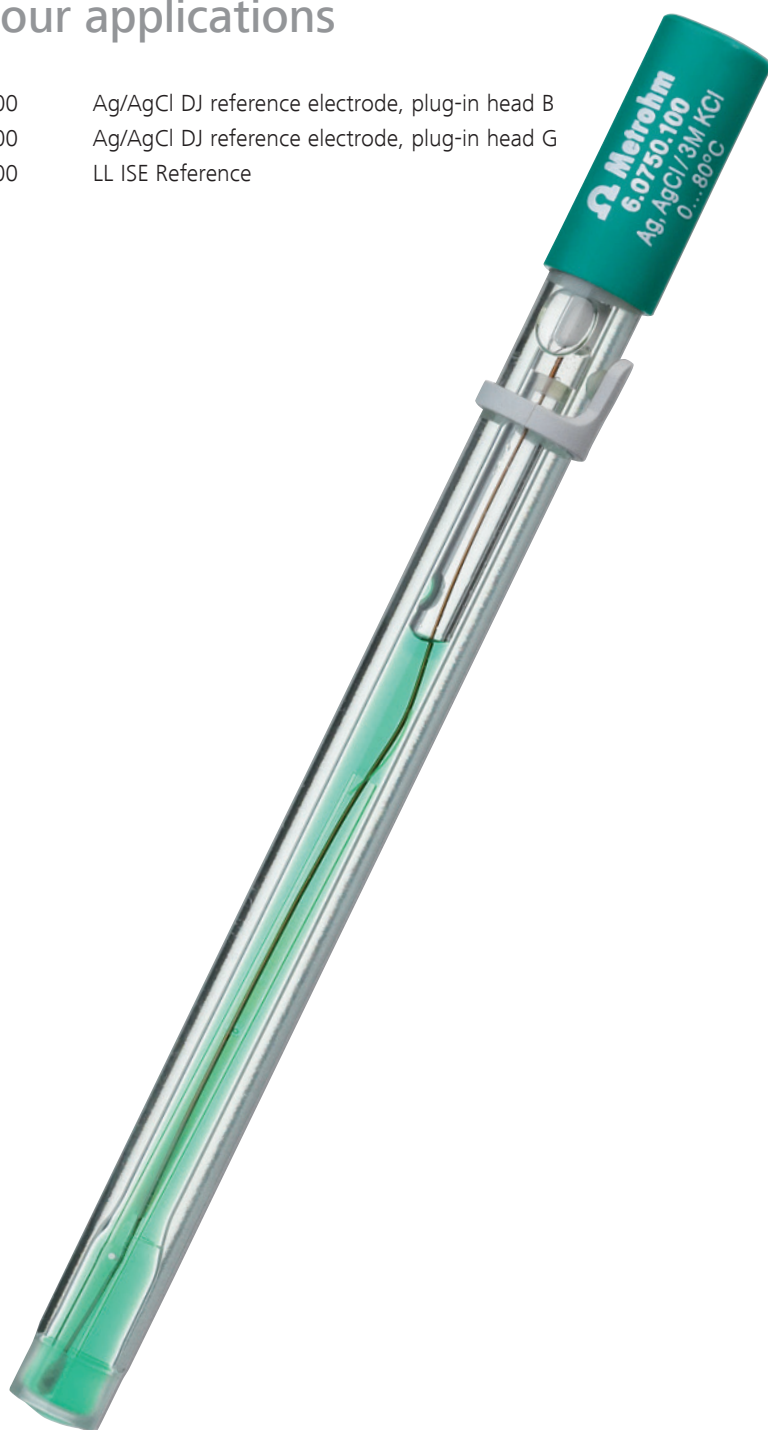


 **Metrohm**

Ag/AgCl Reference Electrodes

Metrohm offers several Ag/AgCl reference electrodes for your applications

6.0726.100	Ag/AgCl DJ reference electrode, plug-in head B
6.0729.100	Ag/AgCl DJ reference electrode, plug-in head G
6.0750.100	LL ISE Reference



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