

Electrochemistry Half-Cell Plate

Order Code **ECHEM-PLT**

The Electrochemistry Half-Cell Plate is a reusable, pre-measured platform designed to simplify electrochemical experiments with multiple metal-ion half cells. Its innovative design allows for precise measurements and easy setup, making it an efficient tool for studying electron transfer reactions and electrochemical processes.

Note: Vernier products are for educational use only.

Using the Product

Before Each Use

1. **Fill the Wells:** Add 1.0 M KNO_3 solution to both the central salt bridge well and each half-cell well.
2. **Soak Overnight:** Let the module soak overnight to ensure the salt bridge and porous cylinders are fully saturated for optimal ion transfer.
3. **Empty the Wells:** Before starting the experiment, empty the KNO_3 solution from all wells to prepare them for fresh solutions.

During Use

1. **Refill the Salt Bridge Well:** Fill the central salt bridge well with fresh 1.0 M KNO_3 solution.
2. **Prepare Electrolyte Solutions:** Select and prepare the appropriate electrolyte solutions for your experiment.
3. **Fill the Half-Cell Wells:** Fill each half-cell well with the selected electrolyte solutions, ensuring they are filled to the overflow rim. Make sure the lower channel leading to the salt bridge is fully saturated.
4. **Insert Metal Electrodes:** Place the polished metal electrodes into the corresponding half-cell wells.
5. **Measure Voltage:** Use the Go Direct[®] Voltage Probe or another measurement device to record the voltage between the half-cells and analyze the electrochemical reactions. An example of a final experimental set-up is shown in Figure 1.



Figure 1

After Use

1. **Remove Metals:** Take out the metal electrodes.
2. **Dispose of Liquids:** Properly dispose of all used liquids according to lab protocols.
3. **Rinse the Module:** Rinse all wells and components with deionized water to clean them before storage.

Care and Maintenance

Ensure you only use KNO_3 to soak the salt bridge in the central ring. Using other chemicals, especially NaCl , can cause irreversible reactions with the salt bridge, potentially rendering it unusable.

Storage

- If reusing soon, store the module in a humid environment (such as a sealed plastic bag) to prevent the need to recharge the salt bridge with ion solution.
- If not needing to use again soon, store the module dry.
- Be sure to thoroughly rinse all wells with deionized water before storage. Any remaining metal ions can compromise the performance of future experiments.

Accessories/Replacements

Item	Order Code
Electrochemistry Metals Kit	ECHEM-MTLS
Go Direct Voltage	GDX-VOLT

Warranty

Warranty information for this product can be found on the Support tab at <http://www.vernier.com/echem-plt>

General warranty information can be found at www.vernier.com/warranty



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Rev. 9/20/2024