MATERIAL SAFETY DATA SHEET
Part #PHFS-B250 and others

SECTION I: GENERAL INFORMATION
PRODUCT NAME: Reference Fill Solution, 1M KNO3, PHFS-B250 and other electrodes with same fill solution
CHEMICAL NAME: Potassium Nitrate/Triton X-100 in Water
CHEMICAL FAMILY: salt solution
DOT SHIPPING INFO: none
IATA SHIPPING INFO: none

SECTION II: INGREDIENTS
<table>
<thead>
<tr>
<th>CAS NO.</th>
<th>%</th>
<th>CHEMICAL NAME(S)</th>
<th>LD50 (mg/kg) oral-rat</th>
<th>OSHA/PEL ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>7757-79-1</td>
<td>10.00%</td>
<td>Potassium Nitrate</td>
<td>913</td>
<td>none</td>
</tr>
<tr>
<td>9036-19-5</td>
<td>0.01%</td>
<td>Triton X-100</td>
<td>4000</td>
<td>none</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>89.99</td>
<td>Water</td>
<td>-</td>
<td>none</td>
</tr>
</tbody>
</table>

SECTION III: PHYSICAL DATA
BOILING POINT: 104°C
SPECIFIC GRAVITY: 1.1
VAPOR PRESSURE: N/A
FREEZING POINT: -4°C
VAPOR DENSITY: N/A
pH: 5.5-8
WATER SOLUBILITY: Soluble
APPEARANCE & ODOR: Clear, odorless gel-like solution

SECTION IV: FIRE & EXPLOSION HAZARD DATA
FLASHPOINT: Not flammable
AUTOIGNITION TEMPERATURE: N/A
EXTINGUISHING MEDIA: Water, CO2, dry chemical
SPECIAL FIRE FIGHTING PROCEDURES: N/A
UNUSUAL FIRE & EXPLOSION HAZARDS: Nitrate may render other materials more combustible if allowed to dry out upon them.

SECTION V: HEALTH HAZARD DATA
EFFECTS OF OVEREXPOSURE: Dizziness, nausea, weakness if taken internally.
EMERGENCY & FIRST AID: Wash off affected area with water or induce vomiting if ingested.
EYES & SKIN: Wash off with large amounts of water for 15 minutes.
INGESTION/INHALATION: Internal-induce vomiting. Consult
SECTION VI: REACTIVITY DATA
STABLE: yes
CONDITIONS TO AVOID: Storing near heat or incompatible chemicals
INCOMPATIBILITY: Reducing agents, B, BaS, Na acetate, Ti, S, trichloroethylene, charcoal
HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of nitrogen upon heating to decomposition
HAZARDOUS POLYMERIZATION: Will not occur

SECTION VII: SPILL OR LEAK PROCEDURES
STEPS TO BE TAKEN: Dilute with water, and cover with soda ash, mix and scoop into a beaker of water, neutralize with HCl and wash down drain with excess water.
WASTE DISPOSAL METHOD: Add to a large container of water, stir in slight excess of soda ash. Let stand 24 hours. Neutralize with 6M HCl and wash down drain with excess water. Observe all federal, state, and local laws.

SECTION VIII: SPECIAL PROTECTION INFORMATION
RESPIRATORY PROTECTION: N/A
VENTILATION: N/A
PROTECTIVE GLOVES: N/A
EYE PROTECTION: Safety goggles
OTHER PROTECTIVE EQUIPMENT: N/A

SECTION IX: SPECIAL PRECAUTIONS
PRECAUTIONS TO BE TAKEN IN HANDLING & STORAGE: Store at room temperature and keep cap tightly sealed to protect product integrity.
OTHER PRECAUTIONS: Potassium nitrate is listed in table 172.101 of Title 49 CFR.

ISSUE DATE: January 7, 2004
NAME: Peter Boyle/R & D Director

SIGNATURE: Peter F. Boyle