

## Standard Electrolyte Preparation:

Please read and follow the safety precautions carefully while preparing the electrolyte.

The quantity of Electrolyte (if supplied in liquid form) per cell is given in the Technical Specifications. This is not applicable for the batteries as they are sent in pre-filled condition.

The quantities of solid lithium hydroxide or solid potassium hydroxide required for each Battery, if supplied in dry & discharged condition are given in separate sheet. Use this data as proportions for preparing the electrolyte.

1000 cc Type B electrolyte contains the following quantities of potassium hydroxide, lithium hydroxide and DM/DI water.

| Electrolyte Type | Potassium Hydroxide (88-90%) | Lithium Hydroxide (55%) | Demineralised Water |
|------------------|------------------------------|-------------------------|---------------------|
| B-22, Density    | 268 gms                      | 40 gms                  | 890 cc              |

Type 'B' Electrolyte is a solution of lithium hydroxide crystals and potassium hydroxide flakes in DM/DI water. The number following the 'B' represents the quantity of lithium hydroxide in grams (assuming 100% assay) per litre of electrolyte.

The required quantity of DM/ DI Water is first taken into the container and appropriate quantity of lithium hydroxide crystals are added with constant stirring. When all the lithium hydroxide has dissolved, potassium hydroxide flakes are slowly added with constant stirring. The solution will become hot. (> 80 degree C). The container used shall be able to withstand this temperature.

After cooling to room temperature, adjust the density as required within a tolerance of +/-0.01 by adding D.M/ DI water. Specific gravity of the electrolyte does not change with the state of charge of the battery, unlike in lead acid batteries.

### Apparatus

Use only clean vessels of plastic or steel for preparing the electrolyte, which can withstand temperatures up to 100 Degree C. Copper, Aluminium or Galvanized vessels must not be used. Do not use accessories already used for lead acid batteries. Transfer the electrolyte into the cells using a clean plastic jug. The electrolyte must not be exposed to air for long periods. Ensure that the electrolyte does not get contaminated.

Use only electrolyte approved by HBL Power Systems Limited, for our Ni-Cd batteries.

### Safety Precautions

The alkaline electrolyte (solution of potassium hydroxide in DM/DI water) is a strong caustic agent. Wear rubber gloves, eye protection and long sleeved clothing when working on the battery. Before working with electrolyte, make sure that water for washing is easily available. If electrolyte is splashed on the skin or clothing, wash immediately with water for 10 to 15 minutes. If eyes are affected, flood with water followed by eye wash solution and obtain immediate medical attention.