

Notes For Use

R01192

Protractinium Generator Safe Handling Instructions

52-2704

The Generator is comprised of a thin walled fluoropolymer plastic bottle holding c.30 cm³ of a solution of a Uranium salt in Hydrochloric acid, and c.10 cm³ of an immiscible organic solvent.

There is a very low level of radioactivity exposure risk to users and spectators from an intact Generator.

Risks arise from the potential for leakage of the contents, and their inherently hazardous nature (see SDS).

For this reason, the Generator must be carefully inspected to check for leakage before use, and retained in the external container provided after use. When not in use store the unit within a secure (locked) metal cabinet, in a cool area of the building.

The bottle is highly resistant to chemical attack, and is not vulnerable to the contents of the Generator. However, the fluoropolymer does have a low coefficient of friction, which may lead to slackening of closure threads, over a period of time, and thus potential for leakage.

Your Generator has been tested for leakage at manufacture, and then a protective sleeve applied before despatch.

It is important that users:-

- DO NOT REMOVE THE CLEAR PROTECTIVE SLEEVE FROM THE GENERATOR
- DO NOT ATTEMPT TO OPEN THE GENERATOR
- DO NOT SQUEEZE THE GENERATOR (hold by the ends using thumb and forefinger, and apply moderate pressure only)
- DO NOT USE THE GENERATOR AT HIGH ROOM TEMPERATURES (to minimise internal vapour pressure on hot days cool in a refrigerator before use)
- RESTORE THE GENERATOR TO AN UPRIGHT POSITION (cap uppermost) FOLLOWING COMPLETION OF EXPERIMENT STORE WITHIN EXTERNAL CONTAINER PROVIDED
- Before and after any use, users should check the Generator carefully for signs of damage or deterioration
- Users should wear a laboratory coat, eye protection, and chemical resistant gloves
- It is advisable to conduct experiments over a tray or similar in order to contain any spillage
- Any leakage should be carefully cleaned up immediately. It is likely to be highly acidic and so appropriate absorbents and neutralisers should be available in the working area
- Ensure that there are no sources of ignition in the working area
- It is not necessary for prolonged shaking of the Generator in order to mix the contents. 10-15 seconds of inversions should prove adequate for the purpose

For more safety advice the user should refer to CLEAPSS bulletin L93 -'Managing Ionising Radiations and Radioactive Substances.'

Supplier details:

Philip Harris Manufacturing, Unit 1B Heathchart Estate, Oldmixon Crescent, Weston Super Mare North Somerset, BS24 9AY

Tel: 01934 413 606