

# Technical Data Sheet

## Platinum Crucibles

### #66500-1 to 66504-15

#### Care Instruction

- Avoid unnecessarily prolonged heating at high temperatures because this promotes coarse crystal growth, which eventually produces cracks.
- Place hot platinum vessels on a refractory material; never on a cold metallic surface or on a dirty surface.
- Heat under oxidizing conditions whenever possible. In making fusions or ignitions in platinum apparatus over a Bunsen or Meker Burner only the upper non-luminous cone should be employed and not the inner cone. Nor should a smoky flame be used as the action of a flame containing free carbon or carbon monoxide will cause the metal to become brittle.
- Use clean platinum tipped tongs to handle hot platinum vessels. When only base metals tongs are available, allow the vessel to cool before handling. Dislodge melts carefully from crucibles.
- Avoid distortion as much as possible, if distortion occurs, reshape crucibles according to the procedure recommending under the heading, "Reshaping Apparatus".
- Use Clean Triangles, preferably of porcelain or alumina, to support crucibles when making fusions.

\*Although platinum's unusual properties make it ideal for laboratory ware, there are some elements that attack it... particularly at high temperatures. Examples are: Lead, tin, zinc, bismuth, arsenic, antimony, phosphorous, selenium and tellurium.

#### Cleaning Of Crucibles And Dishes:

The regular cleaning and burnishing of platinum ware will prolong the life of crucibles and dishes. Immersion in the commonly employed chromic acid cleaning mixture will remove many impurities, particularly organic matter. Boiling in hydrochloric acid may be required to remove insoluble carbonates or metal oxides. Boiling in nitric acid may follow this treatment, but care should be taken to first rinse the article thoroughly since the presence of hydrochloric acid in the nitric acid solution would result in an attack upon the platinum. The solvent action of fused potassium bisulfate may usually be relied upon to remove adherent silica, silicates, metals and metal oxides. After fusion, carefully run the molten bisulfate over the inner surface, allow to cool, dissolve the melt in boiling water and rinse thoroughly. Boiling in hydrochloric acid may be required to supplement this procedure. After cleaning, the platinum crucible or dish may be polished by gently rubbing with an alumina impregnated nylon webbing having a fine grit.

#### Reshaping Apparatus:

Platinum is a relatively soft metal and it is not surprising, therefore, that inadvertent mishandling of laboratory apparatus will produce dents or other distortions. Using a reshaping block and plug may reshape crucibles.

\*\*The life of crucibles and dishes can be prolonged through the regular use of re-shapers to smooth out dents and distortions.