RECOMMENDED HANDLING PROCEDURES FOR:
Europium

I. Storage

Europium reacts quickly with moist air. It should be stored in sealed Pyrex tubes or under 10^{-6} torr vacuum or better. Sealing in a Pyrex jar under an inert atmosphere is all right for short term storage.

II. Cleaning

The only method recommended is scraping the surface with a sharp instrument.

III. Cutting

A sharp knife or razor blade works the best for small pieces. A hack saw may be used, but blades must be changed frequently.

IV. Cold Working

Eu is soft and can be extruded, swages or cold rolled. However, the surface must be protected from the air at all times.

V. Handling

All handling should be done under an inert atmosphere. However, the surfaces of extruded Eu react slowly in air and short time exposure to air does not contaminate the sample excessively.

VI. Stress Relief

Must be heated under 10^{-8} torr or sealed in clean, outgassed tantalum containers. A temperature of 275-300°C for about 8 hours is recommended.

VII. Melting

Europium should be melted in sealed, outgassed tantalum crucibles. Open crucibles under an inert atmosphere will work.

VIII. Electropolishing, Metallography

Little is known about electropolishing Eu or preparing Eu for metallographic examination. If this is necessary we suggest that procedures developed for alkali or alkaline earth metals may work for Eu.

If other questions arise, please contact the Materials Preparation Center at the Ames Laboratory, US DOE, Ames, IA.