RADIONUCLIDE SAFETY DATA SHEET

NUCLIDE: Se-75 **FORMS: ALL SOLUBLE**

PHYSICAL CHARACTERISTICS:

HALF-LIFE: 119.78 days TYPE DECAY: e^- capture

no significant beta$^-$; gamma: 0.066 MeV (1.02 %)
0.097 MeV (3.41 %)
0.121 MeV (16.7 %)
0.136 MeV (59.2 %)
0.265 MeV (59.8 %)
0.401 MeV (11.4 %)

Hazard category: C- level (low hazard) : .10 uCi to 1 mCi
B - level (Moderate hazard) : > 1 mCi to 100 mCi
A - level (High hazard) : > 100 mCi

EXTERNAL RADIATION HAZARDS AND SHIELDING:

The exposure rate at 1 cm from 1 mCi is 1985 mR/hr. (ignoring photons less than 11 KeV). The exposure rate varies directly with activity and inversely as the square of the distance. The mount of lead necessary to reduce the exposure rate by a factor of ten is 0.5 cm.

HAZARDS IF INTERNALLY DEPOSITED:

The annual limit on oral intake (ALI) of Se75 corresponding to a whole-body gamma exposure rate of 500 mrem/year is 54 uCi.

DOSIMETRY AND BIOASSAY REQUIREMENTS:

Film badges and dosimeter rings are required if 5 millicuries are handled at any one time or 1 millicurie levels are handled on a frequent (daily) basis.

Urine assays may be required after spills or contamination incidents.

SPECIAL PROBLEMS AND PRECAUTIONS:

1. When 1 millicurie is used, work behind lead shielding. Handle stock solution vials in shields or use tongs or forceps.

2. Change gloves often and survey frequently. Smear surveys in uncontrolled areas required.

3. Segregate wastes to those with half-lives greater than 90 days (but not with H3 and/or C14).

4. Dilute aqueous wastes may be disposed to the sewer system in amounts of up to 10 uCi daily per lab.