

RADIONUCLIDE SAFETY DATA SHEET

NUCLIDE: Zn-65

FORMS: SOLUBLE

PHYSICAL CHARACTERISTICS:

HALF-LIFE: 245 days

TYPE DECAY: e^- Capture, β^+

maximum energies: β^+ 0.330 (1.5%) MeV
Energies of photons (intensity %/d) : 1.115 (51%) MeV

Hazard category: C- level (low hazard) : 0.010 to 2.0 mCi
B - level (Moderate hazard) : > 2.0 mCi to 100 mCi
A - level (High hazard) : greater than 100 mCi

EXTERNAL RADIATION HAZARDS AND SHIELDING:

The gamma exposure constant is 3.1 R-Cm²/mCi - hr.
The amount of lead necessary to reduce the exposure rate by a factor of ten is 4.1 cm.
Shielding stock vials with lead is usually required. The beta dose at 1 cm from 1 mCi is insignificant.

HAZARDS IF INTERNALLY DEPOSITED:

The campus annual limit of intake (oral) for this nuclide, based upon whole body dose of 500 mrem/year is 40 μ Ci,

DOSIMETRY AND BIOASSAY REQUIREMENTS:

Film badges and finger dosimeters must be worn when routinely handling mCi amounts of Zn⁶⁵, or when handling 5 mCi at any time.

Urine assays may be required after spills or contamination incidents.

SPECIAL PROBLEMS AND PRECAUTIONS:

1. Always wear protective gloves to keep contamination from skin. Change gloves often
2. Survey work areas at conclusion of work. **Shielding may be required.** Instrument and smear surveys are required, the latter in uncontrolled areas or on floors.
3. **Segregate wastes to those with half-lives greater than 90 days** (but not with H3 and/or C14). **No lead is permitted in the dry radioactive waste containers.**
4. Limit of soluble waste to sewer to 10 microcuries/ day per lab.

