



RADIONUCLIDE DATA SHEET

Strontium – 89



Sr – 89 38 protons 51 neutrons

Radiation: **Decay mode:** Beta

Major Betas:

| Max E (MeV) | Avg E (MeV) | # per 100 dis |
|-------------|-------------|---------------|
| 1.491 | 0.583 | 100 |
| | | |
| | | |

Major Gammas:

| E (MeV) | # per 100 dis |
|---------|---------------|
| None | |
| | |
| | |

Max. Beta Range in air 650 cm or 21.33 ft
 Max. Beta Range in water 0.7 cm

Avg. gamma E = 0 MeV

Half – life: 50.52 days

Gamma constant: 0 mR/hr per 1 mCi at 30 cm

Radiological data:

Min. Ingestion ALI: 500 μ Ci equals 5 rem TEDE (Whole Body)

Min. Inhalation ALI: 100 μ Ci equals 5 rem TEDE (Whole Body)

Doses:

Skin Dose: Reported for 1 μ Ci over 10 cm² of skin
 0 mrad/hr (gamma dose)

Point Source: 634 mrad/hr (beta dose)

Disk Source: 634 mrad/hr (beta dose)

Shielding data:

Max. range for beta: Plastic = 0.7 cm

Aluminum = 0.33 cm

Tenth Value Thickness for Concrete = 0 cm

average gamma: Lead = 0cm

Detection Information: Usable Detectors listed with estimated efficiencies
 (Use efficiencies listed on instrument when available)

| | | | |
|--|------|-----------------------------|------|
| Ludlum 3 with pancake probe at 1 cm: | 13 % | Liq. Scint. Counter: | 85 % |
| Ludlum 3 with NaI probe near surface: | 1 % | Gamma Counter: | 4 % |

Action Quantities:

| | |
|---|---------------|
| Bench top quantity must be less than | 1000 μ Ci |
| Containers require labeling when greater than | 10 μ Ci |
| Rooms require posting when there is greater than | 100 μ Ci |
| Contamination lasting more than 24 hrs require NRC notification when greater than | 500 μ Ci |