

Radioactive Material Safety Data Sheet

This data sheet presents information on radioisotopes only.
For information on chemical compounds incorporating this radionuclide, see the relevant Material Safety Data Sheet.

Nickel-63

Part 1 – Radioactive Material Identification

Common Names: Nickel-63	Chemical Symbol: Ni-63 or ⁶³ Ni
Atomic Number: 28	Mass Number: 63 (35 neutrons)
Chemical Form: Nickel metal	Physical Form: Nickel-63 is electroplated on one face of a thin nickel foil.

Part 2 – Radiation Characteristics

Physical half-life: 100.1 years **Specific Activity (GBq/g):** 2,097

Principle Emissions	E ^{Max} (keV)	E ^{eff} (keV)	Dose Rate (mGy/h/MBq at 1cm)	Shielding Required
Beta* (β)	65.9 (100%)	17	228 ^a	-
Gamma (γ) / X-Rays	-	-	-	-
Alpha (α)	-	-	-	-
Neutron (n)	-	-	-	-

* Where Beta radiation is present, Bremsstrahlung radiation will be produced. Shielding may be required.
Note: Only emissions with abundance greater than 10% are shown.
^a *Handbook of Health Physics and Radiological Health*, Lippincott Williams & Wilkins, Third Edition, 1998

Progeny: Copper-63 (Cu-63)

Part 3 – Detection and Measurement

Methods of detection (in order of preference)

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| 1. A radiation survey meter equipped with a thin-window, energy-compensated Geiger Mueller detector. |
| 2. A radiation contamination monitor equipped with a Geiger Mueller pancake detector. |
| 3. A radiation survey meter equipped with a plastic scintillator detector. |

Part 7 - Emergency Procedures

*The following is a guide for first responders. The following actions, including remediation, should be carried out by qualified individuals. In cases where life-threatening injury has resulted, **first** treat the injury, **second** deal with personal decontamination.*

Personal Decontamination Techniques

- Wash well with soap and water and monitor skin
- Do not abrade skin, only blot dry
- Decontamination of clothing and surfaces are covered under operating and emergency procedures

Spill and Leak Control

- Alert everyone in the area
- Confine the problem or emergency (includes the use of absorbent material)
- Clear area
- Summon Aid

Suggested Emergency Protective Equipment

- Gloves
- Footwear Covers
- Safety Glasses
- Outer layer or easily removed protective clothing (as situation requires)

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