

Environmental Health and Safety  
2220 Circle Drive  
Cleveland, Ohio 44106  
P: (216) 368-2906  
F: (216) 368-2236  
[cwruehs@case.edu](mailto:cwruehs@case.edu)

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## **Silicon (Si-32)**

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**Half Life:** 104 years

**Radiation:** Beta emitter

**Shielding:** Decays to P-32, so plexiglass 1cm thick

**Dosimetry:** Body and ring badges

**Detection/Measurement:** GM tube wit

**Avoid generating mixed waste (combinations of radioactive, biological and chemical waste)**

**Special Precautions:**

**Store Si-32 behind 1 cm glass or plexiglass when using**  
**Use tools to indirectly handle unshielded sources and potentially contaminated containers - no direct hand contact**  
**Ensure that an appropriate, operational survey meter is present in the work area and turned on whenever Si-32 is handled to immediately detect contamination**  
**Shield waste containers as needed to maintain accessible dose rate ALARA**

**Safe Lab Practices:**

**Disposable gloves, lab coats, and safety glasses are the minimum PPE required when handling radioactive material**  
**Remove and discard potentially contaminated PPE prior to leaving the lab area where radioactive material is used**  
**Cover all lab bench tops where radioactive material is handled with plastic-backed absorbent paper – change as needed**  
**Handle radioactive solutions in trays large enough to contain the material in the event of a spill**  
**Never eat, drink, smoke, handle contact lenses, apply cosmetics, or take medicine in the lab - keep food, drinks, and cosmetics out of the lab entirely**  
**Never pipette by mouth**  
**Never store food and beverages in refrigerators/freezers used for storing radioisotopes – ensure that isotopes are secured at all times**  
**Avoid any skin contact with skin-absorbable solvents containing radioactive materials**  
**Fume hoods and biological safety cabinets for use with non-airborne radioactive material must work properly and be inspected annually by the EHS department**  
**Do not take any radioactive material off site or use in any ways not approved by the Radiation Safety Officer**