

Environmental Health and Safety
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Iridium (Ir-192)

Half Life: 74 days

Radiation: Beta, gamma and X-rays

Shielding: 1.2 cm lead shielding. 2 mm of plastic will absorb all beta emissions

Dosimetry: Body and ring badges. Urine assays may be required after spills or contamination incidents

8YhYWh]cb#AYUg i fY a Ybh.' ; A' a YhYf' k]h\`dUbWU_Y'dfcVY'cf'g i f j Ym'
a YhYf' k]h\`BU='dfcVY" K]dY'hYghg

General Precautions:

Perform and record lab surveys as needed (monthly and post experiment)

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

Special Precautions:

Store behind 1.2 cm lead shielding when working with Ir-192

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 Iridium 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 Ì 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 Ì 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