

Carbon-14

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Radioactive Half-life $T_{1/2}$:	5730 years
Principal Emission:	0.156 MeV beta (maximum)
Monitoring for Contamination:	Thin end-window Geiger-Müller detector
Biological Monitoring:	Urine samples Breath measurements (CO ₂)
Annual Limit on Intake (ALI) by Ingestion:	7.4×10^7 Bq (~2.0mCi) (Labelled Organic Compounds)
Maximum Range in Air:	24 cm
Maximum Range in Water:	0.28 mm
Shielding:	1 cm Perspex (Plexiglas) Thinner Perspex (Plexiglas) down to 3 mm, although adequate to reduce doses, does not have good mechanical properties.
Special Considerations:	There is a possibility that some organic compounds can be absorbed through gloves. Care needs to be taken not to generate carbon dioxide which could be inhaled.

HANDLING PRECAUTIONS

- Wear protective clothing, gloves and safety glasses.
- Avoid contact with eyes, skin and clothing.
- Do not pipette radioactive solutions by mouth.
- Work in a well ventilated area, volatile materials should be contained in a chemical fume hood.
- Monitor area regularly to avoid contamination; use a GM Detector or wipe test.
- Wash hands and monitor before leaving a radioactive area.
- Use only disposable towels and tissues; dispose of as radioactive waste.

STORAGE PRECAUTIONS

- Contain Radioactive Material in designated area.
- Label Radioactive Material clearly, indicate: Nuclide, total activity, date.
- Observe recommended storage temperatures and conditions.
- Observe posting and sign requirements for all storage areas.

SPILL OR LEAK PROCEDURE

- Cordon off area of contamination.
- Notify Radiation Safety Officer.
- Determine type and amount of contamination.
- Decontaminate the area from the outer edge by wiping or scrubbing.
- Monitor area to be certain decontamination is complete.
- Dispose of radioactive waste according to statutory requirements.