

^{14}C

Working Safely with

Radiation Safety

(216) 368-2906

Carbon 14 Quick Facts

Principal emission:
0.156 MeV beta

Half Life:
5730 years

Shielding:
None required

Body badge:
None required

Ring badge:
Non required

Safety Precautions:

- Some ^{14}C compounds can penetrate gloves and skin. Wear two pairs of gloves and change the outer pair periodically will reduce the chances of absorption through the skin.
- The major concern is the possibility of internal exposure.
- During surveys ^{14}C may be difficult to distinguish from ^{35}S , if both nuclides are being used in the same laboratory, establish controls to ensure they are operationally separated.
- A survey meters with GM probe are not likely to detect presence of ^{14}C in amounts less than about 50 uCi due to low detection efficiency. Liquid scintillation counting must be used for contamination surveys.
- Waste generated from ^{14}C does not require special shielding .
- ^{14}C and ^3H waste may be combined but must be segregated from short-lived waste.
- Volatile CO_2 or other gas phase contaminants may be released during ^{14}C experiments. They must be mitigated by appropriate engineering control.



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Environmental Health and Safety