

10 golden rules

rule

1. Understand the nature of the hazard and get practical training.

2. Plan ahead to minimize time spent handling radioactivity.

3. Distance yourself appropriately from sources of radiation.

4. Use appropriate shielding for the type of radiation.

5. Contain radioactive materials within defined work areas.

6. Wear appropriate protective clothing and dosimeters.

7. Monitor the work area frequently for contamination control.

8. Follow the local rules and safe ways of working.

9. Minimize accumulation of waste and dispose of it by appropriate routes.

10. After completion of work, monitor yourself, wash, and monitor again.

other considerations

Never work with unprotected cuts or breaks in the skin, particularly on the hands or forearms. Never use any mouth-operated equipment in any area where unsealed radioactive material is used. Always store compounds under the conditions recommended. Label all containers clearly, indicating nuclide, compound, specific activity, total activity, date, and name of user. Containers should be properly sealed.

Carry out a dummy run without radioactivity to check your procedures (the shorter the time, the smaller the dose).

Doubling the distance from the source quarters the radiation dose (The Inverse Square Law).

1-cm perspex/plexiglas will stop all beta particles but it is important to be aware of Bremsstrahlung from high-energy beta-emitters. Use suitable thickness of lead or lead acrylic shielding for X-ray and γ emitters.

Always keep active and inactive work separated as far as possible, preferably by maintaining rooms used solely for radioactive work. Always work over a spill tray within a ventilated enclosure. These rules may be relaxed for small (a few tens of kBq) quantities of ^3H -, ^{35}S -, ^{33}P -, ^{14}C -, and ^{125}I -labelled compounds in a non-volatile form in solution.

Laboratory overalls, safety glasses, and surgical gloves must be worn at all times. However, beware of static charge on gloves when handling fine powders. Local rules will define which dosimeters should be worn (e.g. body film badge or thermo-luminescent extremity dosimeter for work with high energy beta-emitters).

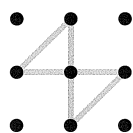
In the event of a spill follow the prepared contingency plan:

- Verbally warn all people in the vicinity
- Restrict unnecessary movement into and through the area
- Report the spill to the Radiation Protection Supervisor/Adviser
- Treat contaminated personnel first
- Follow clean-up protocol.

Do not eat, drink, smoke, or apply cosmetics in an area where unsealed radioactive substances are handled. Use paper wipes and dispose of them appropriately. Never pipette radioactive solutions by mouth. Always work carefully and tidily.

Use the minimum quantity of radioactivity needed for the investigation. Disposal of all radioactive waste is subject to statutory control. Be aware of the requirements and use only authorized routes of disposal.

Never forget to do this. Report to the local supervisor if contamination is found.



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