

Contamination and irradiation

Dr George Dransfield: Contamination and irradiation are risks of working with radioactive substances.

Some jobs where this could be the case are nuclear engineer, nuclear power plant worker or research scientist.

Contamination is when a radioactive material ends up somewhere it shouldn't be.

For example, if radioactive dust gets on a desk or someone's hands.

The contaminated object will continue to emit radiation and the danger will persist until the radioactive contaminants are removed or completely decay.

A person can experience external contamination by touching a radioactive source, which can be avoided by using tongs.

A person can experience internal contamination by ingesting or inhaling radioactive material.

That's one reason why scientists never eat or drink in the lab.

They also always keep powdery sources in sealed containers to avoid breathing them in.

Irradiation is when a person or object receives a dose from a radioactive source.

Irradiation stops as soon as the radioactive source is shielded or moved far enough away.

Scientists use several methods to keep themselves safe.

Containment or shielding, which means placing radioactive materials behind protective barriers, like lead.

Some medical and industrial workers may use personal protective equipment such as lead aprons, as shielding.

Scientists can monitor the amount of exposure for people who regularly work with radioactive materials.

Remember, contamination is when a person or object physically gets a radioactive source on or in them, while irradiation is exposure to radiation from a radioactive source.