

If a person receives an equivalent dose of 50 mrem by standing next to a radioactive source for one hour, what equivalent dose would they receive if they stood there for 2.5 hours?

If a person receives an equivalent dose of 50 mrem in one hour standing 3 feet from a radioactive gamma ray emitter, what equivalent dose would they receive in one hour if they had received if they had stood 10 feet away instead?

Qualitatively, how would your answer change if the source was a beta emitter?

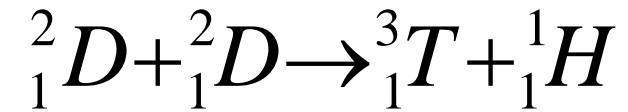
Define what is meant by “ionizing radiation”.

If a worker receives a dose of 1 rad of alpha radiation, what is the equivalent dose (in rem)? For gamma radiation? For beta radiation?

If a worker receives the legal limit of 5 rem each year for 20 years, estimate their risk of dying of cancer and compare this to the risk if no occupational exposure was received.

How is the process by which iodine-131 becomes an enhanced health risk compare to the processes that make mercury a current health concern?

Calculate the energy released in a single DD fusion reaction:



Explain qualitatively why fission products generally have too many neutrons to be stable.