

Uranium

Exposure to uranium has the potential to harm your health. Contact with any hazardous substances can cause health effects and the occurrence and nature of the effects depend on how much, how long and how one comes into contact with the substance.

What is uranium?

Uranium is a radioactive metal that occurs naturally throughout the environment in rocks, soil, water, and air. Uranium can be introduced into the environment through industrial processes including mining, milling, and uranium enrichment processes. Uranium can also be introduced into the environment through the production of phosphate fertilizers as phosphate rocks containing uranium are crushed.

How could I be exposed to uranium?

People can be exposed to uranium by ingestion, inhalation, or through dermal contact.

What are the sources? People can be exposed to uranium through their drinking water. Soils with higher concentrations of uranium could lend themselves to elevated levels of uranium in groundwater. Additionally, uranium can be found in foods with root vegetables, such as potatoes, having higher levels of uranium. Uranium exposures can also occur in the workplace. Those working in mining or milling operations could be exposed to uranium dust created through normal operations.

What are the health effects of uranium Exposure?

All the following health effects come from the chemical interactions of uranium in target organs and not the radioactivity uranium exhibits. Uranium has not been classified as to its carcinogenicity because of limited and inconclusive studies.

Uranium exposure, at high exposure levels, can cause a variety of symptoms depending upon the route of exposure. All exposure routes of uranium can result in kidney damage. Inhalation of uranium may cause irritation and damage the lungs. There is limited evidence in animals of uranium exposures affecting reproductive processes and causing developmental effects. However, these effects have not been observed in humans. Additionally, children experience the same symptoms of high uranium exposures as adults.

How can I limit or prevent my exposure to uranium?

- Avoid uranium exposure sources.
- If you work around uranium, use proper personal protective equipment while working, and wash clothes and/or skin that comes in contact with uranium.
- Test your drinking water for uranium and if elevated consider installing a reverse osmosis treatment system to remove uranium from the water.
- Once removed from the exposure source, your body will naturally remove the uranium from your body.

Is there a medical test to show if I have been exposed to uranium?

Exposure can be measured through the urine, nails, and hair through the detection of total uranium with urine samples being considered the best for measuring total body burden of uranium. However, these tests will not reveal if you will experience harmful effects from elevated uranium exposures.

Additional Information

Call the N.C. Department of Health and Human Services, Division of Public Health at (919) 707-5900 for additional information.

References

Agency for Toxic Substances & Disease Registry (ATSDR). ToxFAQs for Uranium. February 2013. Available at:

<https://www.atsdr.cdc.gov/toxfaqs/TF.asp?id=439&tid=77>

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<https://www.atsdr.cdc.gov/PHS/PHS.asp?id=438&tid=77>

Centers for Disease Control and Prevention (CDC). NIOSH Pocket Guide to Chemical Hazards: Uranium. April 2016. Available at:

<http://www.cdc.gov/niosh/npg/npgd0651.html>

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