



## RADIOACTIVE IODINE

### What is RADIOACTIVE IODINE?

Radioactive iodine I-131 is produced commercially for medical and industrial uses through nuclear fission. Radioactive iodine is used in medicine to diagnose and treat cancers of the thyroid gland. A serious accident at a nuclear power plant, or an act of terror, like exploding a nuclear bomb, could cause radioactive iodine to be released into the environment.

### Routes of exposure:

Inhalation and ingestion are the most likely routes for internal contamination from radioactive iodine. External exposure stops when the person leaves the impacted area and is decontaminated (to remove dust or residue from clothing, skin, and hair).

### Signs and symptoms:

[External exposure](#) to large amounts of radioactive iodine can cause burns to the eyes and on the skin. [Internal exposure](#) can affect the thyroid gland, a small organ located in the neck near the Adam's apple. The thyroid gland uses iodine to produce thyroid hormones and cannot distinguish between radioactive iodine and stable (nonradioactive) iodine. If radioactive iodine were released into the atmosphere, people could ingest it in food products or water, or breathe it in. In addition, if dairy animals consume grass contaminated with radioactive iodine, the radioactive iodine will be incorporated into their milk. Consequently, people can receive internal exposure from drinking the milk or eating dairy products made from contaminated milk. Once inside the body, radioactive iodine will be absorbed by the thyroid gland exposing it to radiation and potentially increasing the risk for thyroid cancer or other thyroid problems.

### What can you do?

Emergency response leaders may direct people to evacuate or "shelter in place." Staying inside a building may protect you from exposure to radiation. The safest place inside a building during a radiation emergency is a centrally located room or a basement without windows. If you were located in an impacted area outside at the time of the accident or incident, go to a safe location, carefully remove your clothing, place it in a sealed plastic bag, and take a shower. Listen to radio or television for emergency messages.

**Emergency Medical Services and Preparedness Section**  
**24/7 Emergency Contact Number: 1-888-295-5156**  
**Contact Number: 302-223-2999**



- Treatment:** Hospital care for persons exhibiting signs and symptoms after a serious accident. Administration of the FDA-recommended dose of potassium iodide (KI) is to be initiated upon issuance of an emergency order by a public health official. Persons with known iodine sensitivity should not take KI; neither should persons with medical conditions associated with an increased risk of iodine hypersensitivity. Such individuals should be referred to their personal care physicians.
- Diagnosis:** Based on known or suspected exposure to radioactive iodine.
- Whom do you call?** Division of Public Health: 1-888-295-5156
- Additional information:** Visit the Centers for Disease Control and Prevention website: <https://www.cdc.gov/nceh/radiation/emergencies/isotopes/iodine.htm>.