

What is KI?

Potassium iodide is a salt that contains iodine. Its chemical symbol is KI. It is a medicine that is available for over-the-counter sale.

KI has been determined by the U.S. Food and Drug Administration (FDA) to be a safe and effective method to block exposure to radioactive iodine—radioactive iodine is one specific product of a nuclear release. Radioactive iodine, if inhaled or ingested through contaminated food or milk, can increase the risk of developing thyroid cancer.

How does KI protect against cancer?

Certain types of iodine help your thyroid function properly. Most people get the iodine they need from foods like fish and iodized salt. The thyroid absorbs and stores iodine, but it can hold only so much at one time. Because of this, one dose of KI, which is not harmful to the thyroid, fills the thyroid so it cannot take up any radioactive iodine that may be released in a nuclear emergency.

For best protection, one dose of KI should be taken just before or at the time of exposure, although it may still lower the risk of thyroid cancer even if taken three or four hours following exposure.

Treatment guidance from the FDA confirms that the benefits of KI far outweigh the rare risks of serious side effects. This is especially true for children, who are more likely than adults to develop thyroid cancer following exposure to radioactive iodine. FDA's guidance is based on a review of studies conducted after the 1986 Chernobyl nuclear reactor accident.

IMPORTANT – The protection offered by KI is very specific. It protects one organ (thyroid gland) from one type of radiation exposure (radioactive iodine). Emergency directives such as evacuation, staying indoors, or restricting the use of contaminated food and milk are designed to minimize your exposure to all types of harmful radiation that could be released in a nuclear emergency. Taking KI is not a substitute for following emergency directives.

Who should NOT take KI?

- If you have known iodine sensitivity, do not take KI.
- If you have dermatitis herpetiformis or hypocomplementemic vasculitis (both extremely rare conditions associated with an increased risk of iodine hypersensitivity), do not take KI.
- If you have nodular thyroid and heart disease, do not take KI.
- If you have multinodular goiter, Graves' disease, and autoimmune thyroiditis take with caution, especially if dosing extends beyond a few days.

- If you are pregnant, could be pregnant, or are breastfeeding only one dose should be taken, and then you should get medical follow-up. Newborns up to 1 month old who received KI or whose mother took it should have medical follow-up to assure proper thyroid function.

If you are not sure if you should take KI, talk with your healthcare provider.

What is the correct dose?

The US Department of Health and Human Services and the Nuclear Regulatory Commission have supplied Vermont with 65 milligram (mg) size tablets, which are marked so they can easily be cut in half. KI should not be given to children unless directed to do so by public health officials in the event of a radiological emergency at Vermont Yankee, and then only at FDA recommended dosages.

Age	FDA recommended dose (mg)	# of 65 mg tablets
Adults over 18 years	130 mg	2
Pregnant or breastfeeding women	130 mg	2
Children over 3 years to 18 years*	65 mg	1
Children 1 month to 3 years	32 mg	½
Children under 1 month	16 mg	¼

*Children who weigh 154 pounds or more should receive the adult dose.

Special instructions for administering KI to children

For children over age 3 years to 18 years– for children weighing less than 154 pounds – the correct dose is one 65 mg tablet of KI.

For children in this age group who may not be able to swallow a tablet, powder may be a better choice.

To make the powder:

- Put the 65 mg tablet in a cereal bowl.
- Use the back of a teaspoon and crush the tablet into a fine powder.
- Add the powder to applesauce, pudding, water or milk.
- Stir or shake to make sure the powdered tablet mixes in thoroughly.
- Give to the child right away.
- In a liquid, the powder settles out in a minute or so. If this happens, mix it up again.

For children 1 month to 3 years – the correct dose for this age group is 32 mg of KI.

For children in this age group, the correct dose is one-half (1/2) of the 65 mg tablet. Follow the instructions above if the child needs to have the portion of the pill crushed into a fine powder.

For infants up to 1 month old – the correct dose is 16 mg of KI.

For newborns, the dose is one-quarter (1/4) of a 65 mg tablet.

- Place the cut tablet into a cereal bowl.
- Use the back of a teaspoon and crush the tablet into a fine powder.
- Put the powder into a baby bottle, add one to two ounces of formula or breast milk and shake right away.
- The powder settles out in a minute or so. If this happens, mix it up again.

How can I dispose of *expired* KI?

If you have expired KI it can be disposed of like prescription medicines:

- Take expired KI out of the packaging and mix with an undesirable substance (for example, used kitty litter, coffee grounds, bacon fat), and place the mixture into a sealable plastic bag or container and place it into the trash. For more information, go to:
http://healthvermont.gov/enviro/rad/KI_program.aspx

Reminders

As with any medication, keep your supply of KI out of the reach of children. Store at room temperature (59 to 86° F). Keep the package dry and the foil packets intact. Check the expiration date once a year. You may want to keep your KI with other emergency supplies so you will know where to find it.

Schools and licensed childcare facilities within the six towns of the Emergency Planning Zone next to Vermont Yankee are prepared to dispense KI to children in a radiological emergency, if there is written consent from a parent or guardian. Schools and childcare facilities work with state officials regarding KI emergency procedures.

In case of an overdose or allergic reaction – call your physician or the New England Poison Center at 800-222-1222.

KI is effective if taken shortly before (about 30 minutes) or after (up to 3 hours) exposure to radioactive iodine in the air. Vermont Department of Health officials will work to anticipate possible radiological releases from Vermont Yankee and issue orders for KI administration to fit into this time frame.