

# Shelter-in-Place in a Radiation Emergency, or just any old Run of the Mill emergency.

[Nukepro's](#) Check list for Shelter In Place in Radiation Emergency.

In the event of a radiation emergency, such as a nuclear power plant accident or the explosion of a dirty bomb, you may be asked to stay home and take shelter rather than try to evacuate. This action is called “sheltering in place.”

Because many radioactive materials rapidly decay and dissipate, staying in your home for a short time (3 days, or maybe 3 weeks) may protect you from exposure to some of the radiation.

The walls of your home may block much of the harmful radiation. Ingesting or inhaling the radiation is the worst, then they can become internal transmitters, **which are 20 to 100 times more powerful than external radiation.** Taking a few simple precautions can help you reduce your exposure to radiation.

## Preparing a Shelter in Your Home

The safest place in your home during a radiation emergency is a centrally located room or basement. This area should have as few windows as possible. The further your shelter is from windows, the safer you will be. One disclaimer though....a room with windows is not an awful choice if you can tightly seal the windows with plastic and tape.

Preparation is the key. Store emergency supplies in this area. An emergency could happen at any time, so it is best to stock supplies in advance and have everything that you need stored in the shelter. If you are a “camper” you can think about storing your camping stuff in the Shelter. The risk is that things get removed and not replaced.

**Every 6 months, check the supplies in your shelter.** Replace any expired medications, food, or batteries. Also, replace the water in your shelter every 6 months to keep it fresh.

Make sure that all family members know where the shelter is and what it is for. Caution them not to take any items from that area. If someone “borrows” items from your shelter, you may find that important items are missing when they are most needed.

Although it is not ideal to have a water heater in the middle of your house (in case it leaks), if your shelter area includes your water heater, you could use this as an emergency source of water. In the perfect world, your shelter would also have a source of water from the city water system (just in case that is still working), and an access to the sewer system, even if it is just a plumbing “clean out” cap that can be removed by unscrewing it.

If you have pets, prepare a place for them to relieve themselves in the shelter. Pets should not go outside during a radiation emergency because they may track radioactive materials from outside into the shelter. Preparing a place for pets will keep the radioactive materials from getting inside the shelter. They sell special products just for this.

The shelter would also be a good place to store your “To Go” backpacks. You may find at some time you simply have to abandon your shelter and “hit the road”. To Go Backpacks are a whole separate topic. They are available online, although if you make up your own, you will find it far superior.

I spent \$40 for one, didn't open it for year. It has food and water and some basic supplies, but we were able to double it's effectiveness by just loading basic stuff we already had in the house like chem light sticks, bic lighter, leatherman tool, LED headlamp.

## Preparing Emergency Supplies

Stock up on supplies, just as you would in case of severe weather conditions or other emergencies. Following is a list of things to consider when preparing your emergency kit.

### ✓ Tick

- **Water** - In preparation for an emergency, purchase and store bottled water or simply store water from the tap. Each person in the household will need about 1 gallon per day; plan on storing enough water, per person, for at least 3 days. Add bleach, ¼ teaspoon per gallon to preserve better and longer.
- **Water Filter.** There is a wide range of possibilities. We like the idea of a camping type pump water purifier with charcoal (activated carbon) which can/may remove radioactive Iodine. Water purification tablets, and good old fashioned bleach, are low cost purifiers. I also keep solid pellet pool “shock” aka bleach. Liquid bleach loses its potency with time, solid shock does not.
- **Food with a long shelf life** - Examples of this include canned, dried, and packaged food products. Store enough food for each member of the household for at least 3 days. For a practical matter, have 3 separate boxes that you stock up every so often, and “rotate” them into your actual food usage before they expire. Quite a few canned foods will be good for several years. Label the 3 boxes with a “Use By” date. If you don’t make it easy to track, you won’t have the continued motivation to track it.
- **A change of clothes and shoes** - Check clothing every 6 months and remove clothes that no longer fit. Remember to include underwear, socks, sturdy shoes or work boots, and winter or summer clothes as needed.
- **Gas Masks & Full Body Protective Disposable Clothing** - A raincoat/poncho is a cheap alternative, and even large trash bags can be converted into ponchos or radiation shields, although certainly not perfect, it’s still way better than nothing. A good quality Gas Mask and appropriate filters will set you back some coin, but it may make the difference between life and death or life and cancer. Have at least one for the lucky person selected to “go outside”.
- **Paper plates, paper towels, and plastic utensils** - Store disposable dishware and utensils because you will not have enough water to wash dishes and because community water sources may be contaminated. Store these in large Zip lock bags so they stay clean, store extra zip lock bags there also, as these are very useful.
- **Plastic bags** - Because you may not be able to leave your shelter for several days, you will need to collect your waste in plastic bags until it can be removed.
- **Bedding** - Store sheets, blankets, sleeping bags, towels, and cots for use during the time that you cannot leave your shelter. Inflatable air mattresses could be awesome, however, we haven’t had good luck with longevity of these. I find that two thick yoga mats make a great bed in a pinch.
- **Battery operated radio and batteries** - Electrical power may not be on for several days. A battery-operated radio will allow you to listen to emergency messages. We found a “hand crank” radio with built in flash light for less than \$30 at a local Long’s drug store.
- **Medicines** - Have 2-3 days’ dose of your current prescription medicines; label with the name and expiration date of the medicine. Be sure to check medicines in your kit **every 6 months** to make sure they are not past the expiration date.
- **Toiletries** - Keep a supply of soap, hand sanitiser, toilet paper, deodorant, disinfectants, plus toothbrushes and toothpaste etc.

- **Personal Documentation** - Have photo copies of important documentation, like passports, drivers licences, bank records, insurance policies etc., and keep them in a water proof container.
- **Flash light and batteries** - Electrical power may be out for several days. A flash light will help you see in your shelter. Having at least one light with a hand crank is a smart idea. Having the type of light that you can “wind up” to power it makes a lot of sense, always consider that although you are motivated at the time of setting up your shelter, you may not stay this motivated or forget to do your 6 month battery check. We really like the new LED headlamps.
- **Fire** - having a few Bic lighters is smart. The ability to make fire is a powerful thing. Occasionally replace these - they fall apart with time. A fire extinguisher would be a good idea also.
- **A telephone or cell phone** - Although cell phone or ground phone service may be interrupted, there is still a chance that you will be able to use a phone to call outside for information and advice from emergency services. Be sure to check and see if these devices are fully charged at least weekly. If you have a VHF radio or Walkie Talkie set up, your shelter could be a good place to store those. Again, don't store batteries in the device in case they leak. Store them in a zip lock bag.
- **Batteries For Electronic Device** - Electric power may be intermittent, and having the ability to recharge backup batteries when power is available, would be invaluable.
- **Weaponry** - After three days, there are going to be many unprepared people who did not think and plan, and they will do anything to get what they need for their family. We always like Mace (pepper spray formulation) as a mild deterrent, a high voltage shocker can also be very intimidating to someone who is “acting up”, although again you have to rotate the batteries. Other advanced weapons such as cross-bow, or firearms should be treated with all due care, and not just thrown in a box because it is “for emergencies”. If you have 2 or 3 people breaking into your house because they have not planned ahead and they know you have food, Mace may not be enough to deter them.
- **Extra eyeglasses & UV rated wrap around Sunglasses** - or contact lenses (and supplies). You may need to read a first aid book! UV could be a problem after a nuclear exchange.
- **Duct tape and heavy plastic sheeting** - You can use these items to seal the door to your shelter and to seal any vents that open into your shelter for a short period of time if a radiation plume is passing over.
- **Tools** - Can openers, multi tool, knife, scissors, hammer, and vicegrips.
- **Geiger counter** - If your budget permits, (a good Geiger counts cost around \$500). Get one and learn how to use it.
- **Rope and twine** - Infinitely useful when in a bind, holy Gordian Knot batman!
- **A book or two on Emergency Survival** - You might find you have a lot of time on your hands, and you can learn on the fly as you need it.
- **Pet food, baby formula, diapers, etc.** - Don't forget the other members of your family. If you have an infant, store extra formula and diapers. If you have pets keep a 3-day supply of pet food. Also include cleaners to help disinfect those areas where pets relieve themselves.
- **Photos of your family members** - Just in case a family member gets separated during the emergency, and you need to find them later. It is quicker and easier to have a photo, than to try to describe someone to a stranger. Have several, or many copies, to pass out.
- **Maps and Money** - Having maps of the local area, plus cash and change, could be very important to find and purchase resources, when you eventually leave your shelter. Consider small denomination real silver coins as forever valuable alternative to cash money.

## First aid kit and book!

Let's say you have to stitch up your wife's leg from a 10" gash, would you know how to do it right now?

You can purchase a first-aid kit or prepare one yourself. Be sure to include the following items:

### ✓ Tick

■ Sterile adhesive bandages, and band-aids	■ Soap or hand sanitiser
■ Sterile gauze pads in 2 inch and 4 inch sizes	■ Latex or vinyl gloves
■ Adhesive tape	■ Safety pins
■ Sterile rolled bandages	■ Aspirin or aspirin free pain reliever
■ Scissors	■ Anti diarrhoea medication
■ Tweezers	■ Laxatives
■ Thermometer	■ Needles
■ Activated charcoal to stop vomiting if advised by the Poison Control Center	■ Syrup of ipecac to cause vomiting if advised by the Poison Control Center
■ Cloves or clove oil, great for tooth ache pain relief. It is anti fungal, anti bacterial, and anti viral too.	■ Caffeine or other stimulant, even energy drinks
■ Antiseptic ointment and wipes	■ Moistened towelettes
■ Tube of petroleum jelly or other lubricant	■ Aloe vera gel for relieving minor burns
■ Antacids for stomach upset	

You might be in a situation where you have to be up for more than a day or even 3. These are tools you can use if you have them.

**Vitamins** - are good, as your food supply might not be perfect. The pre-packaged type seem to last longer.

**Potassium Iodine** - (and instructions and glasses to read the instructions), don't take this too early or if it is not really needed. If you are prepared, you have somehow got a prescription for Prussian Blue, aka Radiogardase, which effectively removes Cesium and Thallium. Baking soda is the best way to protect against uranium, no joke (it is called sodium bicarbonate in the technical literature). Baking soda is very useful for many things.

**Games, books, and other entertainment, plus pencils and paper** - Because you may be in your shelter for several days, keep items on hand to occupy your family during that time. Children are likely to get bored if they have to stay in one place for long periods. Think of activities that they will enjoy doing while in the shelter—finger painting, coloring, playing games, etc.

## Tips before Entering a Shelter

If you are outside when the alert is given, and you have been exposed to radiation, especially if it was raining, get inside a stable building as soon as you can. Remove clothing, shoes, and accessories before entering your shelter area.

During severe weather, such as extreme cold, remove at least the outer layer of clothes before entering the home to avoid bringing radioactive material into your shelter. Leave clothing and shoes outside. Shower and wash your body with soap and water. Removing clothing can eliminate up to 90% of radioactive contamination.

By taking this simple step, you will reduce the time that you are exposed, and also your risk of injury from the radiation.

Before entering the shelter, turn off fans, air conditioners, and forced-air heating units that bring air in from the outside. Close and lock all windows and doors, and close fireplace dampers.

When you move to your shelter, use duct tape and plastic sheeting to seal any doors, windows, or vents, **for a short period of time**, in case a radiation plume is passing over (listen to your radio for instructions). **Be careful, suffocation could occur if you keep the shelter tightly sealed for too long.** Having a carbon dioxide meter that has an alarm facility in your shelter would be a good idea.

Keep your transistor radio, or dynamo hand-crank radio, tuned to an emergency response network at all times for updates on the situation.

### **Additional Commentary on food to buy, store, and what your family eats.**

You have to be able to eat and use your food storage everyday to be able to rotate it. The best reason to store what your family eats is that in a time of emergency, if you've only stored the basics like wheat, beans, rice, etc., and your family's diet is suddenly changed, (perhaps even at the same time you're all experiencing stress), you and your family's stomachs and digestive tracts are not going to be cooperative and calm. Times of stress are not the ideal occasion to suddenly change your whole diet. This is especially true for children. Beans may last for 20 years, any storage is better than none, and every little addition is an improvement.

Some of the items below are good for "normal life".

We think there are interesting times ahead. The more "natural substances" you learn to use now, the more likely you will do good in a rough situation.

**Alum (white, powdered)** - An imperative food item, with medical uses, to store. When sprinkled on an open wound it will draw out infection and any drainage. It will leave the sore disinfected and dry, and will speed healing. (Buy alum in the spice department at your grocery store.)

**Baking Soda** - There are so many uses for baking soda that a book could be written on it's uses. It can be used as a deodorant, mouthwash, toothpaste, cleaning and scouring agent, degreaser, and a natural deodoriser. It has leavening properties and can be mixed with cream of tarter to make baking powder. 1/2 tsp. mixed in a 4-oz. glass of water is good for upset stomachs (remember bicarbonate of soda?). In laundry it's good as cleaner and water softener. It also makes soaps stretch farther. It can be used as a coolant for the skin, especially for sunburn, rash, bee-sting, poison ivy and oak. Helps maintain pH in water. Baking soda can be used safely without polluting the ground water. It also makes a great fire extinguisher.

**Black Pepper** - Convenient, versatile seasoning. Stretches a long way. Cinnamon- Yummy added to oatmeal, bread, wheat, cereal, cookies, hot chocolate, etc.

**Bullion Cubes** - Great for broth to feed an invalid or sick person. Good to use as a base for any soup. Simply add any vegetable, grain, meat, pasta, etc. Can be used to make gravy, or in the water while boiling rice. Stores well in airtight container.

**Dried or Ramen Soup** - Complete, nutritious, lightweight, and easy to prepare. Requires only hot water. Stores for a very long time because there is no moisture in it. (Which is what limits the shelf life of some foods.)

**Gatorade/Sports Drink** - These drinks can restore vital minerals and nutrients and prevent dehydration (which can be fatal). Their shelf life is fairly long unopened.

**TIP:** Buy the Sport Drink in powder form. That gives you more flexibility in how you handle your liquid supply. It takes up very little room. As mentioned before, you might need for some quick energy while doing a reconnaissance or a procurement run. If you have to use iodine pills to purify water, adding the sports drink powder can cover up the bad flavour.

There is a class of survivalists that calls themselves “Preppers”. They go as far as to use cash for purchases, never purchase too much all at once, never talk about their preparations/storage. They disguise their prep work, and even think about how to put on an outward appearance of suffering in a crisis so the short sighted non-prepared neighbours, who will turn into aggressive animals within 3 days, won’t immediately know that they have supplies.

It is kind of cool to get back to basics, I got this recipe from a Preppin’ site. Make Your Own Electrolyte Beverage (Gatorade, Pedialyte, etc.) To one quart of water add 1/2 teaspoon baking soda, 1 teaspoon of salt, and 8 teaspoons of granulated sugar. Thoroughly mix all ingredients together. This will replace electrolytes lost by the body due to dehydration caused by diarrhoea, vomiting, excessive sweating, etc. A package of Kool-Aid, Crystal Light, etc. may be added to enhance the flavour and colour.

**Ginger** - Powdered or ginger root. Made into a tea it can be used as a decongestant (like hot mustard plaster, but better because it won’t burn the skin). Just immerse a towel, rag or old shirt in a strong, heated ginger tea and place on chest to loosen chest congestion.

It causes heat even after it’s cooled, though it can be re-rinsed in the warm tea. A milder tea can be drunk for upset stomach and gas. Ginger in the water of beans as they soak will control gas problems. Ginger is a good spice to add to any cooked vegetable. It’s often used in Chinese cooking.

**Honey** - Every food storage must have honey. Real honey will last forever.

**M.R.E.’s** - (Meals Ready To Eat) Good for 72 hour kits. Compact, complete, healthy, lightweight, and convenient. Needs no refrigeration, and can even be eaten unheated if necessary. But they are expensive!

**Oats** - Excellent source of bran and fibre. Popular cookie ingredient. Can be added to meat loaf. Makes nutritious and filling hot cereal. (Added nutmeg, cinnamon, raisins, or dehydrated fruit makes it even tastier.) Can be used to make pancakes. Oatmeal baths, masks, and soap are healthy for skin and good for itches and rashes. If you aren’t already cooking with Oats, you really should start. Oats rock. Try the rolled oats which are thicker and crunchier if you are making some treat. Combine with honey, boom! Instant awesome treat.

**Vegetable Oil**, or your favourite oil, EVOO

**Parsley**- Fresh or dried. Parsley is rich in vitamin C and in iron, calcium, potassium and vitamin A. Prevents urinary infections. Good for fevers. Excellent for prevention of, or maintenance of, cancer. Cures sting from insect bites when used in a poultice. A tea made from the seeds can be used as a shampoo to kill vermin in the hair. Helps aid digestion, which is the original thought behind sprigs of parsley being placed on dinner plates in restaurants. Excellent addition to soups, salads, coleslaw, potato salad, casseroles, on meat, or cooked into scrambled eggs.

**Sage** - Good seasoning for roasts, soups, etc. Can be used as a cure-all. A strong sage tea is an excellent gargle for tonsillitis or ulcers in the throat or mouth, good mixed with lemon and honey. The sage tea can be drunk cold or hot. It’s one of the best remedies for gas, liver, stomach, kidney or bowel trouble. Will stop bleeding and is good used to clean old wounds and ulcers. And wound will heal more quickly when washed with a sage tea.

It’s useful for typhoid and scarlet fever, measles and smallpox. Soothes nerves and relieves headaches. An effective hair tonic. It will make hair grow if roots haven’t been destroyed, and will remove dandruff. When used in high quantities sage is good for easing female problems, and all lung problems such as colds, asthma, coughs, bronchitis, influenza and pneumonia. Tea from sage should be steeped, while covered, and not boiled.

**Salt** - In ancient times salt was highly valued. Nowadays this inexpensive item is an excellent addition to your food storage for your own use and for future barter needs. Salt is very versatile. It can be used to cure meat, add flavour to otherwise bland foods, and can be used to help ease the pain of sores. It will speed healing. Try it on a canker sore. Apply the salt straight on the wound, (may sting initially), or dilute it with water. ½ tsp. in warm water is good for headaches and indigestion.

**Pop Tarts**, Why not? Quick and Easy, maybe Jello too.

## DIY Preppin' Tips

For a 3 day “Shelter at Home” event, you might not need too much variety or fun food. But if you are living off stored food for a while, having some quick fun foods we make big difference between hating life and feeling kind of normal.

Don't get “too serious” when packing your food storage, just because you are thinking of serious stuff, you don't need to “go fully Spartan”.

Long term storage is best done in waterproof containers, with a gasket seal lid. Oxygen and moisture are the main enemies of long term storage.

This tip from a “preppin'” site I don't want to get into details on Essential Oils here. They are a broad topic. Easy to buy online, they are getting popular and there is also a lot of junk out there. I would buy organic and do some diligence. I have repeatedly bought from Mountain Rose and recommend them. Essential Oils deserve their own complete write up, you can find so much on the web. Clove is awesome because its anti-fungal, anti-viral, anti-bacterial. Rosemary relaxes and for me is a focus enhancer. Peppermint will stop a headache.

An expedient oxygen absorber for a 5 gallon storage container can be made by placing a golf ball size piece of steel wool and a tablespoon of salt inside a paper napkin and placing it in the container. The salt will absorb the residual moisture and the steel wool will naturally absorb the oxygen.

I hope you enjoyed this write up, email comments to [stock@hawaii.rr.com](mailto:stock@hawaii.rr.com)

## NOTES

Here is a Ted-Ed youtube video, "Surviving a nuclear attack" by Irwin Redlener

<https://www.youtube.com/watch?v=tW7IgKJWtqk>

Free online book, “Nuclear War Survival Skills.”

<http://oism.org/nwss/nwss.pdf>

The US government provides more extensive information on the subject here.

[http://www.governmentattic.org/21docs/InTimeOfEmergency\\_1968.pdf](http://www.governmentattic.org/21docs/InTimeOfEmergency_1968.pdf)

International List of Radiation Monitoring Stations

<http://sccc.org.au/wp-content/uploads/2016/07/International-Radiation-Monitoring-Station-List.pdf>

This mobile phone app appears to be the most cost effective way to turn most mobile phones into an effective Geiger counter. We have no financial association with the app maker, and only provide a reference to it as most people have mobile phones now.

<http://rdklein.de/html/radioactivity.html>