

## **Post Nuclear Sanitation Notes**

*(this is an addendum to the paper entitled Sanitation Notes)*

### **main areas of concern:**

medical  
morgue  
food preparation  
body cleansing \*  
toilets  
waste disposal

*\*note: showers are not included due to the unavailability of large quantities of water*

.05 solution of regular (non-scented, not dry) bleach - 5 capfuls (10 Tablespoons) to 5 gallons of water

### **basic supplies for personal shelter sanitation: (14 day occupation) - per 10 expected occupants with radiation sickness and other injuries**

20	lawn size heavy duty garbage bags with ties
10 lbs.	quick lime - store in original paper sacks up off the floor (OK to freeze) - do not store in glass breakable bottles
300 gallons	water
2	small quantity water filters (200 gallon filters)
1/2 gallon	anti-bacterial hand soap
1/4 gallon	dish soap
1 gallon	isopropyl (rubbing) alcohol
2 gallons	regular liquid bleach
20	dust masks
1 for each person	gas masks with extra cartridges (M-95 preferred)
6 for each person	surgical masks
10 pair for each person	latex gloves - S, M, L, & XL sizes
10 pair	rubber gloves for those allergic to latex
2	body bags
2 - 4	shovels
65	five gallon buckets with tight fitting lids - this is for liquid waste disposal - <i>do not use 55 gallon drums</i>
3	large wash basins to act as sinks
1	port-a-potty ( <i>a flushing one is preferred to keep down the stench</i> )
4 boxes	Borax or equivalent for the stench in the port-a-potty - do not use Pine-Sol in an inclosed environment
several	scented candles for the stench
10 pounds	kitty litter
100	heavy duty garbage can liners for port-a-potty
10 rolls	paper towels
1 per person	wash cloth
1 per person	towels
5	wash rags for dishes and such
10	Sunday edition newspapers for wrapping of solid waste that cannot be consumed

All of these supplies are only for a 14 day occupation. A 21 day supply is recommended due to the uncertainty of the lowering of radiation levels. Also when you come out of your shelter you will need supplies as well. Don't count on Albertsons' being open.

Probably the first thing that comes to mind for sanitation in a nuclear environment is the toilet. Remember input/output. It is nice to remember things to eat and drink but also remember whatever goes in has to come out. We normally have nice toilets that are connected to working sewers. In a post nuclear environment forget all that. The average person uses 2 gallons per person per day of water for normal consumption and hygiene other than showers and normal bathing. That is okay until you realize you do not have a clean water system to draw on or a working sewer to dump into. Anyway, if you are lucky enough to get a flushing port-a-potty into your shelter this will serve you well as you are in a confined area that also confines odors quite well. If you are using a luggable Lou, 5 gallon bucket with tight fitting lid or some other makeshift toilet realize you will have a major problem with odors and if great care is not taken, possibly disease as well. Either way, no matter what kind of toilet you are using it will get full and will need to be emptied. If you are using 2 gallons per person per day realize that is also eventually 2 gallons per person per day of waste that needs to be dealt with. Do not plan on using 55 gallon drums for this due to that when they are full they weigh about 440 lbs. That is a lot of weight to try to get out of your shelter. It would be easier to fill up 5 gallon buckets (which are about 40 lbs. each full) and the hoist them out. If you are using the luggable-Lou or 5 gallon bucket or other method that uses plastic bag liners remember to double bag all human waste. As each person goes to do their duty have them sprinkle 1 tablespoon of Borax (for the smell) and 1 tablespoon of lime (for the bacteria) in the toilet each time to help control disease. Washing hands for a minimum 30 seconds must be a ritual. You do not have to have running water for this but you must discard your water after each time. Using alcohol wipes and gels will help but are no substitute for proper hand washing.

The next step to consider is bathing. It is impossible for you to store enough water for bathing showering in a personal shelter. It is possible to use a washcloth wash yourself from head to toe using part of your 2 gallons per day per person ration of water. Water should be heated whenever possible. This is very important to bath as often as possible when radiation sickness effects are taking hold.

So the next step to consider then is radiation sickness. Depending on the amount of shelter materials (i.e. mass, distance, and time) will depend heavily on the amount of radiation exposure you receive and thus also how sick you will get. With radiation sickness comes a lot, repeat a lot, of vomiting and diarrhea. So prepare for clean up of this as well. This also brings loss of appetite and dehydration. You must force yourself and others to drink fluids even when you do not feel like it. Due to your proximity to an explosion you may be dealing with other injuries as well such as burns and crushing injuries. Those will not be talked about in this paper but should be prepared for just as anything else.

Food preparation needs to be considered here as well. Other than normal cooking procedures realize that your waste water and other waste will accumulate and need to be dealt with. Sterilize all food preparation surfaces regularly with the chlorine solution above.

Last of all we hope we never have anyone pass away but if this happens proper body wrapping and removal procedures should be followed. For psychological reasons alone corpses should be removed from shelters as soon as possible and then later buried. Do not run the risk of exposing yourself to danger levels of radiation just to dispose of a corpse. A properly wrapped corpse can sit for quite a while before you are overwhelmed by the smell of death and rotting flesh.