

A Household Toilet for Oregon Emergency Kits

What?! Toilets in our emergency kits?

Well, yes. If the Big One strikes and water and sewer lines are broken, we'll need them, won't we? *Scientific American* (2011-05-03) says, "the Cascadia subduction zone is arguably the biggest seismic hazard in the U.S." And the United States Geologic Survey says that Oregon faces a 37% chance of a magnitude 8.0 or greater earthquake within the next 50 years. So ask yourself: What will you do when the toilets don't work? Do you have the knowledge and materials you need to build a safe, functional toilet for your family?

Why aren't toilets on most lists of emergency supplies?

One reason is that emergencies like epidemics or snowstorms don't damage sanitation systems. But earthquakes do.

Another reason is that we just don't talk about toilets very much. Call it "toilet blindness".

When the earthquake hit northern Japan in March 2011, sewer and wastewater infrastructure was destroyed even in well-prepared communities. After the earthquakes in Christchurch New Zealand, people quickly built toilets appropriate for the emergency stage of the crisis. Now many people whose sewer service isn't restored yet are building beautiful ecologically sustainable toilets in their homes.



How about just buying a camping toilet?

A camping toilet is not cheap and what do you do when it fills up? We've noticed that recommendations in most cities take for granted a disposal option. They assume that city officials will get sewers up and running. Or that they will send trucks around to pick up your bagged waste. This might work for a short term disruption of water or sewer service. But for a major earthquake, this could lead to an epidemic. We're pretty sure there are easier and better ways to prepare.

So what's the solution?

The Christchurch Twin No-Mix Emergency Toilet. It's our adaptation of a toilet designed by New Zealand emergency responders and ecological sanitation advocates.

- It's safe and manageable..
- You can get two buckets, lids, and a seat for less than \$20.
- You can use the buckets to store emergency supplies.
- "No-mix" means urine is separated from feces: pee has volume but is generally sterile; poo has pathogens but when you add sawdust, paper or peat moss, it composts down to small volume.

The how-to info (on the other side) tells you what you need to make Christchurch Twin and how to use it in an emergency.

"No-Mix" is one of the principles of long-term ecological sanitation. If sewer disruption continues, therefore, you can learn composting and recycling appropriate for the disaster recovery period. The rolling plastic carts that the Christchurch team has adapted for safe composting can also be used to store emergency supplies.

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The Christchurch Twin No-Mix Emergency Toilet

How to make and use it

What do you need?

- 2 to 4 plastic buckets (5 or 6 gal. size)
- Lids for buckets
- A toilet seat
- Carbon material: 1 or 2 gal. plastic bags of sawdust, shredded paper, or peat moss.

Supermarkets and bakeries often will give you used buckets for free, although they may lack lids. Lids and buckets are sold at hardware stores and online. At least one lid should have a good seal. Buckets are useful for storing other emergency supplies. Toilet seats that fit buckets are available at camping stores or on line. You can also adapt smaller ordinary seats to fit buckets. Your emergency supplies should also include hygiene items: toilet paper, hand sanitizer, soap, sanitary napkins, plastic collection bags of various sizes and this instruction sheet.

How do you use the toilet?

1. Mark the twin buckets “pee” and “poo” (or #1 and #2 or urine and feces, or yellow and brown, etc).
2. Set them up in a private space. The seat can be moved from one to the other.
3. Scratch your head and decide if you need to use the pee bucket or the poo bucket.
4. Try not to pee in the poo bucket. This is really important but it is understandable that this isn't always possible. The pee is the component that produces the bad smell in toilets that mix.
5. After using the pee bucket, collect toilet paper separately in a plastic bag. Then remove the seat and cover with a lid that closes well.
6. After using the poo bucket, sprinkle about a half cup of the carbon material so that it completely covers the surface of the poo. This will eliminate odors and ensure flies don't make themselves at home. If you collect toilet paper separately in a plastic bag, it's easier to be sure the poo is completely covered.
7. Put the toilet seat back down, ensuring it's not airtight. Give your poo some air and it will dry out and reduce in volume.

Remember that in an emergency people are vulnerable and scared. If your flush toilet doesn't work and the sewers are down, folks in your household will appreciate the comfort, hygiene and safety that come with this simple twin toilet.

What do you do when buckets fill up?

The really great feature of the Christchurch Twin is that it is No-Mix. It separates pee and poo, makes each of them easier to handle and almost completely eliminates odor. A day's worth of pee has almost 10 times the volume of poo. So the pee bucket will fill up a lot faster. The volume of pee is why a single bucket camp toilet fills up quickly and mixing pee and poo makes it a mess to deal with. The great thing about pee is that it's clean (unless someone is sick) and getting rid of it is not difficult. If you have extra buckets and lids, you can store pee until it can be put in the soil (6 to 8 inches below the surface) or added to a compost pile.

In a real emergency you can pour it in a street drain or the river, although a wooded area is preferable. What's special about the Twin, it that it works even for high-rise apartment dwellers.

It's the poo bucket that contains most of the pathogens. But the great thing about poo is that it doesn't take up much space. Left to dry in a bucket with some carbon material, poo simply decomposes into compost. In a small household it will take a couple of weeks for the poo bucket to fill so just leave it be and give it some air. Poo is manageable, although there will still be pathogens.

Note: Compost that is safe to reuse as fertilizer on gardens requires extra work. At www.composttoilets.co.nz the New Zealand team explains how to do this. For more information, on ecological and emergency sanitation, including where you can purchase supplies, see www.phlush.org



Public Hygiene Lets Us Stay Human

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