



Our mission is to provide the highest level of safety, and to protect public health and the environment from toxic harm.

Fact Sheet, January 2009

Chemical Toilet Products Advisory for Consumers

Prohibited Chemical Toilet Product Ingredients



If you own or spend time in a recreational vehicle (RV) or boat, you know of the odor problems coming from the holding tanks used for sewage (grey and black water tanks) and *chemical toilet waste*. There are a number of products available to control these odors, but some of these products may contain chemicals that are banned and cannot be sold or used in *chemical toilets* in California.

Many chemicals are banned in these products, but **formaldehyde**, which is commonly used to reduce odor, in particular, has come to the attention of the Department of Toxic Substances Control (DTSC).

Based on chemical information, formaldehyde may be a *non-biodegradable* toxic chemical substance and you should avoid purchasing and using any chemical toilet product that lists formaldehyde as an ingredient in any concentration.

Background

Chemical toilet products may contain chemicals that are known to cause septic tank failures by killing the bacteria essential to the treatment process in the septic tank. In 1979, the Prohibited Chemical Toilet Additives law was passed and it banned the manufacture, sale and use in California of non-biodegradable toxic chemicals in chemical toilets or waste facilities (toilets). This law was expanded in 1988 to include a similar ban on the sale and use of *halocarbons* in products used to clean or unclog a *sewage disposal system*.



What you need to know about toilet additives

Chemical toilet additives include chemicals that are known to cause septic tank failures by killing the bacteria essential to the treatment process in the septic tank. Formaldehyde can cause these bacteria to die in holding tanks as it controls odor by killing bacteria.

Formaldehyde also kills bacteria necessary to breakdown the wastes to decompose in septic tanks. When your holding tank wastes are disposed into a "dump station" at a campground or RV park (i.e., usually to a septic system), the formaldehyde may kill the bacteria in the septic tank which can eventually clog the system. When a septic system fails, sewage wastes does not breakdown and can cause an increased risk to people from contact with raw sewage.

What you can do to help

- Use holding tank deodorizers that **Do Not Contain Formaldehyde**, and look for **Biodegradable** (enzyme or citrus-based) products instead.
- Minimize your use of holding tank deodorizers by using toilet facilities at rest stops when you can.
- Follow the directions for toilet additives and add only what is recommended.
- Tell other RVers and boaters about what's safe and legal to use in their toilets.

These chemicals have not been evaluated by DTSC, but based on their potential impact to "dump stations" should be avoided in holding tank deodorizers.





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Table 1. Active ingredients you should avoid using in your RV holding tank deodorizers.

Active Ingredient	Threats to Human and Environmental Health
Bronopol: (chemical name: bromo-nitropropane-diol)	bacterial pesticide
Dowicil: (chemical name: 1-(3-chlorallyl)-3,4,7-triaza-1-azoniaadamantane chloride)	bacterial pesticide
Glutaraldehyde: (also known as embalming fluid)	Retards bacterial growth and covers sewage odor, eye/inhalation irritant
Paraformaldehyde: (polymerized formaldehyde)	very toxic to humans ¹
Para-dichlorobenzene: (common ingredient in mothballs, urinal cakes, and toilet bowl fresheners)	known carcinogen ² and drinking water contaminant; moderately toxic to humans ³

¹ lethal dose for 150 lb person is between 1 teaspoon to 1 ounce

² a carcinogen causes cancer

³ lethal dose for 150 lb person is between 1 ounce to 1 pint

Source: <http://ag.arizona.edu/pubs/water/az1233.pdf>

Definitions

"*Chemical toilet*" means any portable or permanently installed sanitation apparatus or system which utilizes a tank for toilet waste retention and into which a chemical toilet additive is added.

"*Chemical toilet additive*" means any chemical substance, biological agent, or other material or formulation thereof, which is employed for the primary purpose of controlling waste decomposition and odors in a chemical toilet holding tank or any tank in which chemical toilet wastes are held, collected or transported. The term "chemical toilet additive" includes, but is not limited to, a chemical substance, biological agent or other material which is a deodorant, bactericide, bacteriostat, microbiocide, chemical reactant, surfactant or enzymatic agent.

"*Chemical toilet waste*" means the waste in or from a chemical toilet.

"*Halocarbon chemicals*" means chemical compounds which contain carbon, and one or more halogens, and which may include hydrogen, including, but not limited to, trichloroethane, tetrachloroethylene, methylene chloride, halogenated benzenes, and carbon tetrachloride.

"*Non-biodegradable*" generally means that a chemical does not degrade (breakdown or reduced to a certain strength) when tested to measure how much oxygen bacteria would use to breakdown the chemical over a short period of time.

"*Sewage disposal system*" means a septic tank, cesspool, sewage seepage pit, leachline, or other structure into which sewage is drained for purposes of disposal and which is not connected to a municipal treatment works.

For More Information

For California laws and regulations, consult Health and Safety Code sections 25210 – 25210.1; and California Code of Regulations, title 22, sections 67410.1 – 67425. For other useful information see

<http://www.epa.gov/owm/septic/pubs/rv-wastewater.pdf> or <http://cfpub.epa.gov/owm/septic/index.cfm>.

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