



## Germ-killing chemicals at day care

### Sanitizers and disinfectants

In the United States, child care licensing laws require that only products registered with the U.S. Environmental Protection Agency be used for sanitizing and disinfecting. In Oregon, child care providers must also follow U.S. Food and Drug Administration sanitizer guidelines for commercial food establishments and test for concentration strength. This additional FDA regulation limits child care providers' ability to use less-toxic products. Oregon providers use three EPA-registered products for sanitizing and disinfecting:

- Chlorine bleach – Bleach is widely used because it's inexpensive and – when used correctly – highly effective at killing common bacteria and viruses. It also kills germs quickly once in contact with an object and doesn't require rinsing, because it breaks down into harmless components. Still, bleach is an irritant, especially for people with asthma, and can harm skin and eyes. It has caused many childhood poisonings and reacts with other chemicals to create toxic byproducts and fumes. It's also corrosive.
- Iodine (Iodophors) – Iodine solutions can be effective sanitizers and disinfectants against a broad range of germs. They don't produce harmful vapors, and iodine has a long shelf life. The primary disadvantage to using iodine is potential staining of surfaces and skin. Iodine is also toxic if ingested.
- Quaternary ammonium – Unlike bleach, quaternary ammonium chlorides, or "quats," are noncorrosive, making them gentler on metal equipment and surfaces. Quats are odorless, are more stable than bleach and have a longer shelf life. Like bleach, however, they're toxic and can cause respiratory distress. In fact, it's more difficult to use quats safely because there are many different concentrates available and no general guidelines for mixing. Label directions must be followed carefully. Some formulations include additional chemical ingredients that may be harmful themselves or are not suitable for food-contact surfaces. Quats also require a longer contact time for germ-killing and are generally not as widely available.

### Less-toxic products used in other states

Though Oregon's child care providers are limited in their choice of germ-killing products to those few that have a test kit and are approved by the FDA, more EPA-registered sanitizers and disinfectants are used in other states, many of which have achieved the EPA's highest safety rating and don't contain synthetic chemicals. Some examples:

- Benefect – a plant-based disinfectant and sanitizer that contains Thymol from the thyme plant.
- Alpha HP – a ready-to-dilute disinfectant and sanitizer containing accelerated hydrogen peroxide as the active ingredient.
- Ionator EXP – a sanitizing device that uses tap water a low-level electric charge to kill germs.
- Pro-San L – a sanitizer that uses citric acid to kill germs.