



TOXTALKS

A BULLETIN FOR HEALTHCARE PROFESSIONALS WHO MANAGE POISONED PATIENTS

Blue Ridge Poison Center

University of Virginia Health

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TOXICITY OF HOUSEHOLD CLEANING AGENTS

In the setting of the current coronavirus (COVID-19) outbreak, there has been much discussion about the use of disinfectants and other cleaning agents for infection prevention. Per the Centers for Disease Control and Prevention (CDC), **cleaning** refers to removal of germs, whereas **disinfecting** refers to using chemicals on inanimate objects to kill germs. Disinfectants differ from **antiseptics**, which are applied to living tissue (i.e. skin).

The CDC recommends using diluted household bleach solutions, alcohol solutions with at least 70% alcohol, and EPA-registered household disinfectants. However, chemicals used to clean and disinfect often present their own risks, and many commonly encountered household products have the potential to be toxic.

Hydrogen peroxide 3% is a common ingredient found in mouth rinses and skin disinfectants. If a small amount (less than 1 oz.) is ingested, it can cause mild throat irritation. However, in moderate to large ingestions it can lead to vomiting, abdominal cramps, diarrhea, and gastric distension. Some hair-bleaching solutions contain concentrations of hydrogen peroxide greater than 10% and can cause severe corrosive injury when ingested, leading to perforation and air emboli.

Most household bleach solutions contain **hypochlorite** in concentrations of 3-5%. Ingestion of household bleach can cause immediate burning in the mouth and throat, however are rarely life threatening and can usually be managed at home. More concentrated solutions of hypochlorite (such as in industrial strength cleaners) can cause serious damage leading to drooling, dysphagia, and significant throat and abdominal pain. Of note, household bleach should never be mixed with an ammonia product as it may release a

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NEWS AND NOTES:

Congratulations to Jennifer Ross, MD, MPH, who earned a

competitive spot on the board of the Journal of Medical Toxicology for a 1 year term.



The Journal of Medical Toxicology is the official online journal of the American College of Medical Toxicology. Dr. Ross is a medical toxicology fellow at the Blue Ridge Poison Center.

The Blue Ridge Poison Center continues to serve the Commonwealth during the COVID19 crisis. Our 24-hour emergency hotline will remain open. 1-800-222-1222.

**Free. Fast. Expert help.
24 hours a day, 7 days a week.**



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toxic gas.

Iodine (a component of Betadine) is used for its antiseptic properties. While Betadine is not usually toxic in small amounts, prolonged topical exposure to concentrated iodine products can cause burns. Ingestion of iodine is corrosive and causes significant vomiting, hematemesis, and diarrhea. Liquid iodine, such as Lugol's solution, is prepared in ethanol, so ingestion can also lead to ethanol toxicity.

In summary, some guidelines for appropriate cleansing and disinfecting practices include:

- When disinfecting, it is important to wear gloves to minimize skin exposure to potentially abrasive chemicals.
- Make sure to properly ventilate areas where disinfecting agents are used.
- Don't use expired products and always follow the manufacturer's guidelines when using household products.
- Never mix household bleach with ammonia. In general, never mix any household cleansers or disinfectants.
- The best preventive measure is always hand washing, using an alcohol based hand sanitizer (if hands are not visibly dirty) or soap and water for 20 seconds.
- If exposed to a corrosive agent, irrigate the exposed skin with water and remove contaminated clothing.

If questions arise on this or any other poisoning, the medical staff at the Blue Ridge Poison Center would happy to assist. Free medical consult is available 24 hours a day, every day: 1-800-222-1222. (Healthcare providers may also call the dedicated HCP hotline: 1-800-451-1428.)

The Blue Ridge Poison Center receives funding from University of Virginia Health, the Virginia Department of Health, and the U.S. Health Resources Services Administration (HRSA). We are accredited by the American Association of Poison Control Centers. We've been proudly serving the Commonwealth since 1978.

Poison safety tips, free materials, & more:

