

SAFETY TALK

April 26, 2020

Handling Cleaning and Disinfecting Products Safely

Bleach and isopropyl alcohol (hand sanitizer) are recommended by Health Canada to disinfect novel coronavirus. The key ingredient in bleach is sodium hypochlorite.

Workers may think mixing bleach and hand sanitizer boosts disinfecting power, but chemicals in mixtures often react with one another to yield products with undesirable properties. Usually, the mixture forms unintentionally, like from cleaning up an alcohol spill with bleach or by mixing cleaners.

Bleach is highly reactive and should never be combined with other products. Bleach reacts with ethanol, isopropyl alcohol, and other types of alcohol to make chloroform (CHCl_3), hydrochloric acid (HCl), and other compounds. Ethanol and isopropyl alcohol occur in many disinfectants, including hand sanitizer.

Chloroform is a dangerous chemical. It is readily absorbed into the body through skin or by inhalation or ingestion. Chloroform irritates skin, eyes, and the respiratory system. It damages the eyes, lungs, nervous system, skin, liver, and kidneys, and may cause cancer. The immediate risk is that it acts as powerful anesthetic that can cause unconsciousness or “sudden sniffer’s death,” a fatal cardiac arrhythmia. Suspect chloroform exposure if you smell an ether-like odor or a heavy, sweet scent.



Chloroform in oxygen (and air, which contains oxygen) degrades and forms phosgene, carbon monoxide, dichloromethane, hydrochloric acid, carbon dioxide, and formyl chloride. These are also toxic chemicals that should be avoided. For example, phosgene is the chemical agent that caused about 85% of the deaths from chemical weapons exposure in World War I.

If you think you have been exposed:

- Immediately leave the area and evacuate other nearby workers.
- Seek medical attention and contact Poison Control.
- Notify your supervisor and Leducor supervisor of the incident.

To prevent incidents: never mix cleaning products, read and follow the instructions of Safety Data Sheets and place workplace labels on spray bottles and other temporary containers, use bleach and disinfectants in well ventilated spaces and wear appropriate PPE, including gloves, eye protection and respiratory protection as appropriate.

THINK SAFETY
WORK SAFELY



