

# Confronting COVID-19

## Effective AND Safer workplace cleaning and disinfecting

August 20, 2020

11:00 am

## Overview of today's webinar

- how the virus spreads via surfaces
- cleaning vs disinfecting
- cleaning and disinfecting products
- hazards of cleaning and disinfecting products
- safer disinfecting products
- worker safety when cleaning and disinfecting



## How SARS-CoV-2 spreads

SARS-CoV-2, the agent that causes COVID-19 is spread:

- directly
  - by breathing in droplets and droplet aerosols in the air
- indirectly
  - through contaminated surfaces
- contact with contaminated surfaces, then mouth, nose or eyes
- remains infectious from hours to days



## How long does SARS-CoV-2 survive on surfaces?

Surface	Time	Comments
Aerosol	3 hours	Half-life corresponds to approximately 1.1 to 1.2 hours The air would approach a level where all virus will have been inactivated by 24 hours
Plastic 21-23° C 40% humidity	72 hours	One thousand fold reduction in infectious particles in 72 hours. This means that the surface could essentially be considered free of virus in 72 hours.
Stainless steel 21-23° C 40% humidity	48 hours	One thousand fold reduction in infectious particles in 48 hours. The surface could essentially be considered free of virus under these conditions in 48 hours.
Copper 21-23° C 40% humidity	4 hours	Half-life corresponds to approximately 1 hour. The surface is reported to be virus-free in 4 hours.
Cardboard 21-23° C 40% humidity	24 hours	Half-life corresponds to approximately between 2.2 and 5 hours. The surface is reported to be virus-free in 24 hours.

## Missing information

- how about other surfaces?
- what if the temperature and humidity were different?
- scientists are still learning about the virus

This is why we must continue:

- practice good personal hygiene
- effectively clean and disinfect surfaces



## Cleaning vs disinfecting

- cleaning
  - removes dirt and impurities from surfaces
  - but does not kill germs such as the virus
- disinfecting
  - kills germs on surfaces with the use of chemicals
  - doesn't necessarily clean dirty surfaces



## Cleaning first

- surfaces must be cleaned before being disinfected
- some products claim they clean and disinfect at the same time

### Best for cleaning:

- soap or detergent (look for safer products)
- water
- damp microfiber cloth
  - dry cloth spreads the germs
  - soiled cloths can be washed using regular laundry soap and hot water (60°- 90°C)



## Effects of using cleaning products

### Short-term:

- irritating, itchy or burning eyes
- skin rashes, allergies and burns
- dizziness and headaches
- nose bleeds
- sore throat, coughing, wheezing, shortness of breath
- poisoning

### Long-term:

- skin disorders
- respiratory diseases
  - especially asthma
- allergies
- harm to the brain, nervous system, reproductive organs, kidneys and liver



## What do we know about disinfecting products?

- disinfecting products are classified by EPA as pesticides
  - are hazardous products
  - create hazards in the workplace
- marginally effective in the field due to consistently being misused
  - not observing best before date
  - not allowing the required dwell time
    - the amount of time disinfectants need to remain wet on surfaces to properly disinfect



## Chemicals used in disinfectants

- alcohol
- chlorine and chlorine compounds
- formaldehyde
- glutaraldehyde
- hydrogen peroxide
- Iodophors
- ortho-phthalaldehyde (OPA)
- peracetic acid

## Effects of disinfecting products

- Like cleaning products can irritate the eyes, respiratory system, skin, or cause other health problems
- Accidental poisoning have also been on the rise with COVID
- cohort study of 73,262 US female nurses (2009-2015)
  - occupational exposure to cleaning products and disinfectants
  - significantly associated with a 25% to 38% increased risk of developing chronic obstructive pulmonary disease (COPD)

## Controlling hazardous products

- workers must be trained in WHMIS
- read labels and safety data sheet (SDS) before using a product
- ensure the disinfectant is capable of 'killing' COVID
- substitute dangerous products with safer products
- follow manufacturers' instructions
- wear appropriate personal protective equipment (PPE)
- never mix cleaning and disinfecting products together

## Finding products that work for COVID-19?

- EPA's list N
  - Disinfectants for Use Against SARS-CoV-2 (COVID-19)
- how to look up a product
  - find this number by looking for the EPA registration number on the product label
  - enter the first two sets of its EPA registration number into the search bar
- for example
  - if EPA Reg. No. 12345-12 is on List N, you can buy EPA Reg. No. 12345-12-2567 and know you're getting an equivalent product.



## Find products that work for COVID-19?



Health  
Canada

Santé  
Canada

### ➤ Health Canada

- Hard-surface disinfectants and hand sanitizers (COVID-19): List of disinfectants with evidence for use against COVID-19

### ➤ to find a product:

- locate the Drug Identification Number (DIN) on the disinfectant product label
- look for that number on the Disinfectants for Use Against SARS-CoV-2 (COVID-19) list

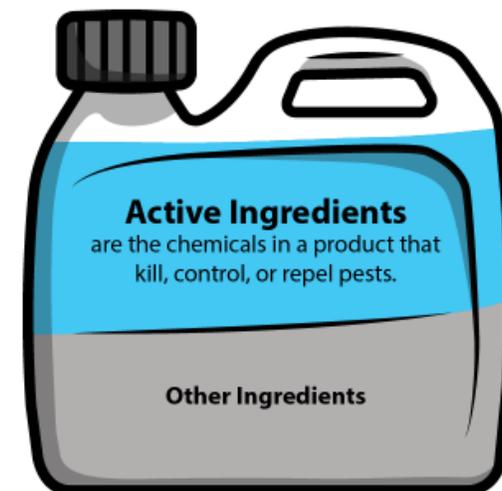
## EPA expediting reviews on existing products

- EPA is considering rules for new uses of currently registered active ingredients
  - including the use of electrostatic sprayers to disinfect large indoor spaces
- electrostatic sprayers work by charging the antimicrobial liquid as it passes through a nozzle
  - positively charged antimicrobial droplets are attracted to negatively charged surfaces



## Active ingredients

- if the product available to you is not registered with Health Canada or the EPA, it may still be effective
- look at the label or safety data sheet for active ingredients
- following concentrations of active ingredients have been tested as most effective:
  - 62-71% ethanol (ethyl alcohol) or
  - 0.5% hydrogen peroxide or
  - 0.1% sodium hypochlorite (bleach)



## Preparing a bleach solution

- a bleach solution may be prepared for disinfecting by mixing:
  - 5 tablespoons (1/3 cup) bleach per gallon of water, or
  - 4 teaspoons bleach per quart of water
- ensure bleach has not expired
  - check the best before date
- **NEVER MIX BLEACH with AMMONIA or any other cleaner**
  - it can create a **DEADLY GAS**



## Prior to preparing solutions, cleaning & disinfecting

- properly train workers in WHMIS
- read labels and safety data sheets
- follow manufacturer's instructions for:
  - recommended dilution
  - material compatibility
  - storage/shelf-life
  - safe use
  - disposal

For Laundry	Product	Water	Instructions	
Bleachable Fabrics <i>Avoid bleaching wool, silk, mohair, leather, spandex and nonfast colors.</i>	3/4 Cup	Standard Washer	Use a detergent. For best results: Dilute bleach with a quart of water and add to wash 5 minutes after the wash cycle has begun. For HE machines: Fill machine dispenser to maximum level.	
	1-1/4 Cups	Extra Large Washers		
<b>For Sanitizing</b>				
Work Surfaces	1 Tbsp.	1 Gallon	Wash, rinse, wipe surface area with bleach solution for at least 2 minutes, let air dry.	
Dishes, Plastic Cutting Boards, Baby Bottles	1 Tbsp.	1 Gallon	Wash and rinse. After washing, soak for at least 2 minutes in bleach solution and air dry.	
Dishcloths & Rags	3/4 Cup	1 Gallon	Pre-wash items, then soak them in bleach solution for at least 5 minutes. Rinse well and air dry.	
<b>For Disinfecting</b>				
Floors, Tiles, Bathtubs, Showers, Kitchen Sinks, Baby Toys	3/4 Cup	1 Gallon	Pre-wash surface, mop or wipe with bleach solution. Allow solution to contact surface for at least 5 minutes. Rinse well and air dry.	
DO NOT use this product full strength for cleaning surfaces. Always dilute strictly in accordance with label directions. For prolonged use, wear gloves.				

## Safer not safe!



- substitute to safer disinfecting products
  - the EPA has a list of disinfectants with safer active ingredients
- list of safer active disinfectant ingredients identified by EPA's Safer Choice program include:
  - hydrogen peroxide, alcohol (isopropyl alcohol or ethanol), citric acid, and lactic acid, and others
- products listed are safer for health and the environment
  - safer than products that contain bleach, phenols or quaternary ammonium compounds ("quats")

## Safer not safe!

- TURI Lab performed a sample search on List N and identified a number of products that contain safer active ingredients
- TURI eliminated products that were for both cleaning and disinfection
  - in order to disinfect effectively, it is necessary to clean first
- always follow manufacturers' instructions for use



## Next ventilate the area

- to minimize exposure to respiratory droplets:
  - open doors and windows to increase air circulation and/or
  - increase the building's air exchange rate
  - wait at least 30 minutes before cleaning
- wait at least 24 hours, if cleaning after a person who is suspected, presumed or confirmed as infected with COVID-19



## Personal protective equipment

For all cleaning tasks, including handling trash, workers should be supplied with:

- gloves compatible with disinfectant in use
  - see safety data sheet and ensure proper fit
- gowns
  - if not available, then coveralls, aprons or work uniforms
- face masks (or respirators) and face shields (if potential for splash)
- shoe covers or dedicated shoes that can be disinfected.



## Cleaning hard surfaces



- use a detergent or soap and water
- wipe surface, using friction (scrubbing), with a disposable or microfiber cloth
- ensure cloth stays clean by using new cloth or fresh quadrant of cloth for each area or surface
  - once all quadrants have been used, replace cloth
- apply disinfectant on surface ensuring it remains on surface for recommended time prior to wiping.

## Cleaning soft surfaces

- soft surfaces should not be forgotten
  - linens, cushions, bedding
- fabrics potentially contaminated with COVID-19 should be washed in hot water with detergent and dried on highest temperature
- spray disinfectant on non-washable soft surfaces
  - carpets and upholstered furniture



## Cleaning electronics

- electronics such as tablets, touch screens, keyboards, remote controls, and ATM machines must also be cleaned and disinfected
- consider covers for electronics that can be wiped
- follow manufacturer's instructions
- if manufacturer cleaning instructions are not available
  - use alcohol-based wipes or sprays containing 70% alcohol to disinfect touch screens then dry surfaces thoroughly



## A word on disinfecting wipes

- use wipes only after cleaning the surface first
- the disinfectant must remain on surface
  - e.g. surface must stay wet for 4-10 minutes (depending on brand) to be effective.
- dry wipes are not effective and should be discarded
- wipes are useful when used in between regular cleaning on frequently-touched items



## Waste removal

- discarded soiled materials in waste bins may contain the COVID-19 virus
  - e.g. cloths, gloves, and tissues
- line waste bins with plastic bags
- ideally waste bins are non-touch or at least open
- ensure waste bins are emptied often
  - then cleaned and disinfected, or at the minimum, sprayed with disinfectant



## After cleaning and disinfecting

- clean and disinfect all tools and equipment used
  - e.g. broom or mop handles, etc.
- properly remove gloves and dispose immediately
- properly clean and disinfect reusable gloves
- immediately wash hands with soap and water for at least 20 seconds
  - if soap and water not available, use a hand sanitizer with at least 60% alcohol (ethyl or isopropyl alcohol)
- launder work-wear daily



## WHSC training and resources

- now offering virtual classroom training
- includes the most popular programs, e.g., certification training for joint health and safety committee members
- new course on COVID-19
- register for our virtual classroom training on our website or by contacting one of our training services representatives



## Connect with us



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