MAFMA Training

Overview of Cleaning and Disinfecting Program

Infection Control for SARS-CoV-2

Part 1

October 30, 2020

Training sponsored by DCAM and OSD Environmentally Preferable Products Program

Developed and Provided by:

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Based on collaborative work with Carol Westinghouse, Informed Green Solutions, Inc.

Welcome

The goal of this presentation is to help you understand:

- **An overview of the Components of a Cleaning and Disinfecting Program for COVID-19 Infection Control**
- **Training Topics**
- **Work Practices**
- **Procurement Challenges and Tips**

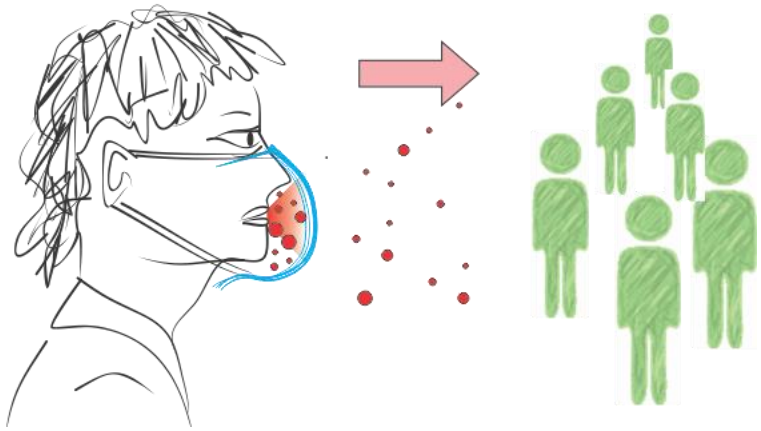
A Cleaning and Disinfecting Plan for Infection Control

Should answer the following questions:

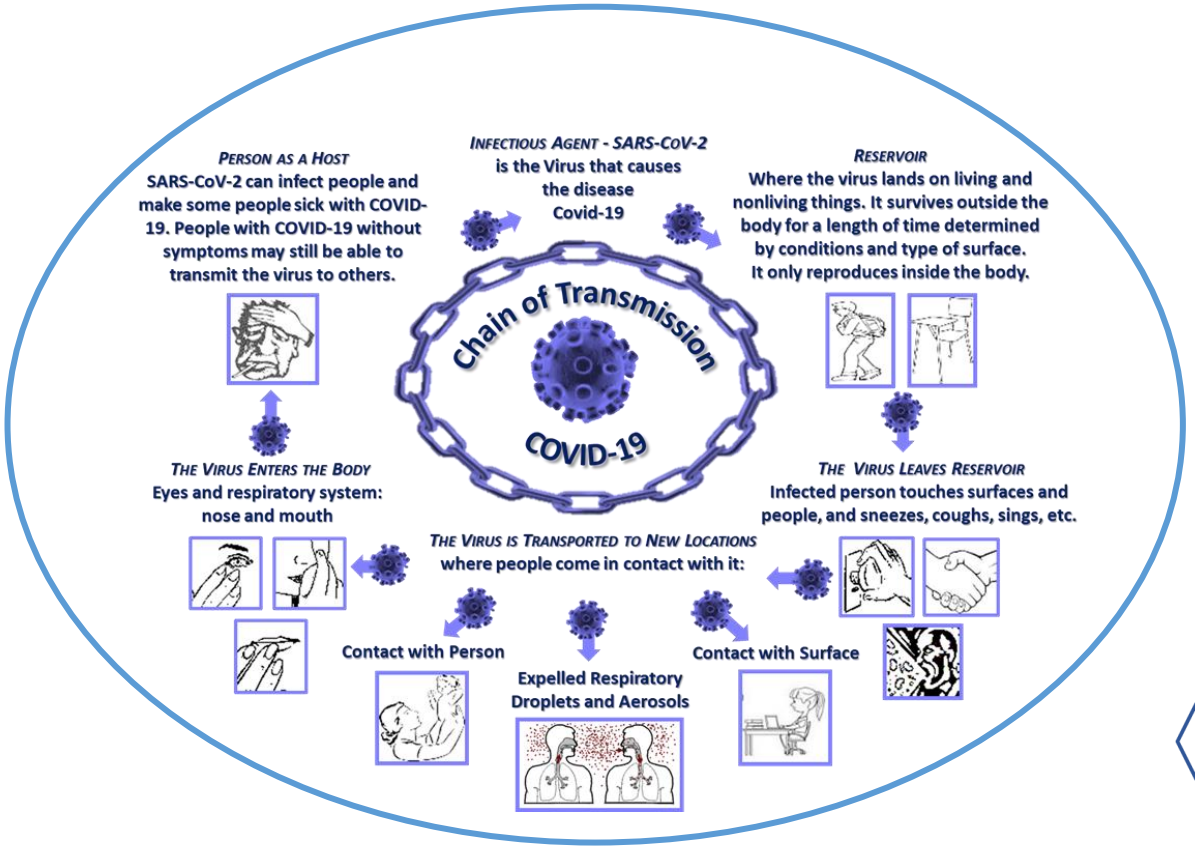
- **What PPE, cleaning/disinfectant products, supplies, equipment to use?**
- **How to safely use, maintain and store PPE, products & equipment?**
- **How to prevent cross contamination?**
- **What is the schedule/frequency of cleaning/disinfection activities?**
- **Who is cleaning and disinfecting? Inhouse and/or outsource?**
- **How to clean/disinfect a space after a confirmed case of COVID-19?**

Training: PPE

- ***When and how to wear, care and remove PPE***
- ***What is optional and what is required***
- ***Distinction for uses of PPE:***
  - **Face covering – source control, not PPE**
    - **Protects <u>others</u>**
    - **Not subject to OSHA respiratory requirements**
  - **Respirator**
    - **Depending on the type, protects <u>wearer</u> from hazardous particulates, microbes, chemical vapors, etc.**
    - **Subject to OSHA respiratory requirements**

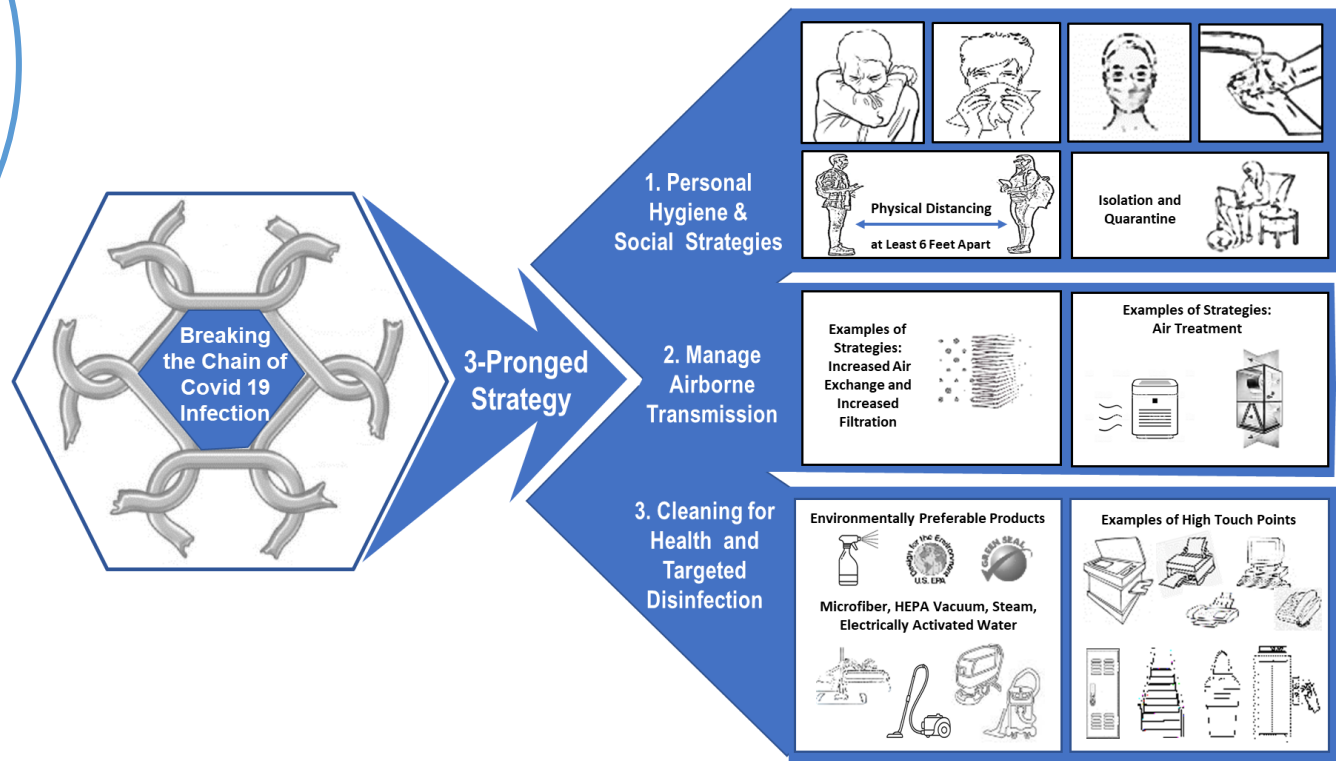


Training: Infection Control



How the Virus is Transmitted

Three Pronged Strategy to Break the Chain of Transmission



Training and Plan: Hazard Communication

Employers need to provide written materials and training on content for all new products:

- ***Safety Data Sheets (SDS)***
- ***Labels* for secondary containers**

Particularly important for use of hypochlorous tabs, equipment must be emptied daily and solution can be used for up to 3 days.

Training: Haz Com Refresher Training

- Operations in their work where hazardous substances are present

- Physical and health hazards of these substances

- Protective measures to take

- Emergency response and first aid procedures

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Training: Haz Com Refresher Training

On SDS hazards and precautions of all new products

Effersan Tabs: SDS Guidance

Hazards	Concentrate	Diluted	Precautions	First Aid
HMIS/NFPA	Health 3 Flammability 1 Physical 2	Health 0 Flammability 0 Physical 0		
GHS Symbol	Irritant 	None		
Eyes	Can cause serious irritation	Irritant	Concentrate - Wear chemical splash goggles when making solution Diluted – none required	Flush 15 minutes Remove contact lenses, flush
Skin	More hazardous in tablet form when its wet. Can cause severe irritation or burns.	Irritant	Concentrate - Wear nitrile gloves Diluted – none required	Flush 15 minutes Wash with soap and water
Respiratory	Can cause respiratory irritation and aggravate respiratory diseases.	Irritant	Avoid breathing mist/spray. Set equipment to biggest droplet size and spray close to surface. Work from farthest point in room. Use in a well ventilated area.	If symptoms, move to fresh air and rest in a position for breathing. If breathing is difficult, contact medical assistance.

Disinfectant Applicators:

Electrostatic and Mister/Fogger

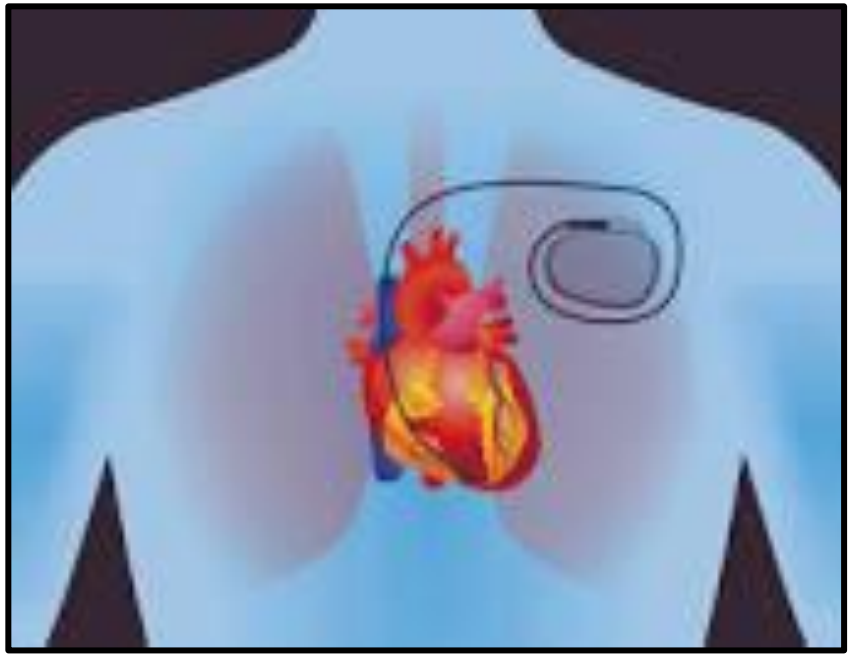
Safety Tips for Training

Note: training should also cover:
assembling and charging units,
filling with chemicals, and use and maintenance.

Training: Safe Use of Electrostatic Sprayers

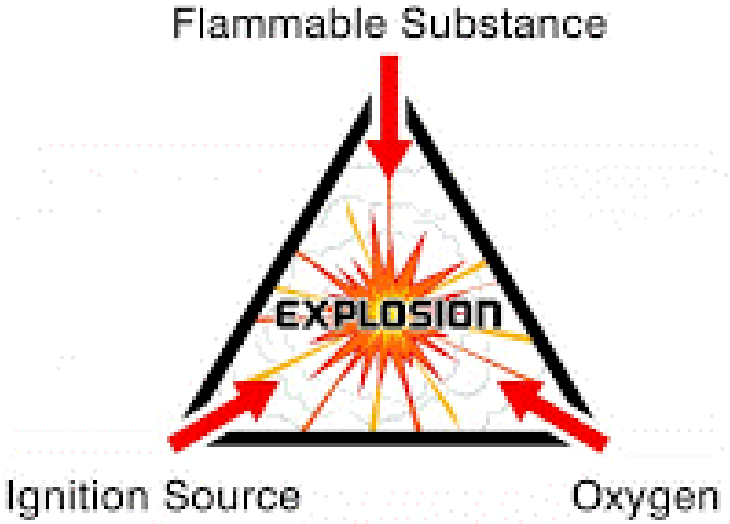
Note: The following key points do not replace reading the equipment manual.

- **Health WARNING from Victory Sprayer:**
  - **Electrostatic devices may interfere with sensitive medical devices such as pacemakers, defibrillators, or similar devices.**
  - **DO NOT operate an electrostatic sprayer or stand within 10 feet if you use such medical devices. Contact your physician.**



Training: Safe Use of Electrostatic Sprayers

- **Fire Safety**
  - **Do not operate cordless sprayer in explosive atmospheres (e.g. in presence of flammable liquids, gases, or dust) as cordless sprayers create sparks, which may ignite the dust or flammable vapors.**
  - **Use only with water-based products (not solvent based).**



https://www.raytecled.com/blog/identifying-zone-0-zone-1-and-zone-2-hazardous-areas/

- **Do not touch or insert any foreign objects into the nozzle to avoid electrical shock.**

Training: Safe Use of Electrostatic Sprayers

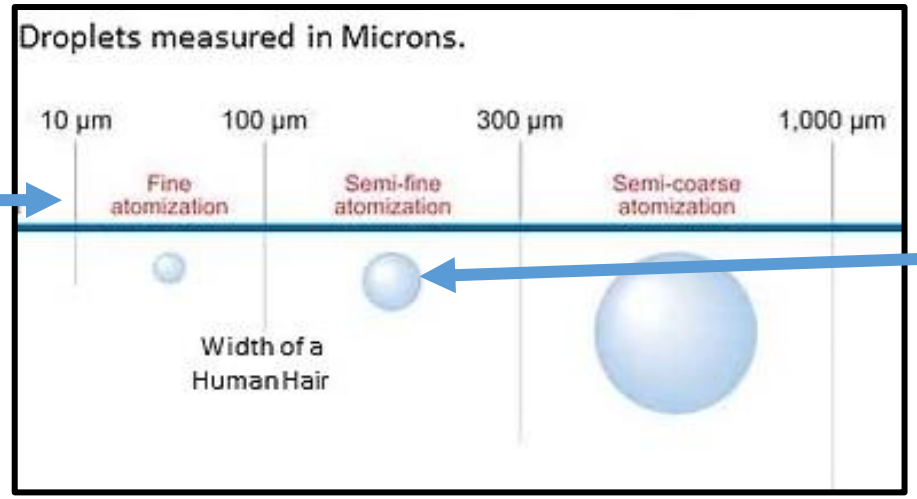
- **Make sure you are properly grounded when using an electrostatic sprayer to prevent becoming electrically charged and avoid static sparking, which can cause a fire or a mild electric shock.**
  - **This sprayer Is designed with a metal grounding strap in the handle**

  - **Keep it dry:**
    - **Always have dry hands when gripping the grounding strap.**
    - **Make sure there is no standing water under your feet, and do not drip in or stand in any puddled area.**

Training: Safest Use of Mister/Fogger

- **Note: this equipment can aerosolize a liquid into a "fog" where it can remain in the air until it dries, depending on conditions in the space. This can pose more of a respiratory hazard.**
- **Settings – if possible, set the nozzle to the mist, or completely open position:**
  - **To create heavier droplets that settle out of the air more quickly.**

Fog
10 microns



Mist
200 microns

  - **Ensure you apply enough product on the surface to stay wet for the required "contact time".**

Note: Although the unit can spray as far as 16-20 feet (depending on fan speed), the goal is to spray the surface, and NOT into the air.

Training: Use of Disinfectant Applicators Around Electronics

- **Disinfectants can damage materials on the inside and outside of equipment.**
- **Excess liquid getting inside equipment can also cause damage.**

- **Check product directions for use around office electronics (e.g. computers, keyboards and monitors):**
  - **Electrostatic – The EvaClean website notes that the Protexus sprayer use with hypochlorous tabs can be used around, but not directly applied to any sensitive electronics.**
  - **Mister/Fogger - A recent study 5/20* found that equipment that is powered on can draw in fogged product in from the air. Some of the disinfectants were found to corrode the electronics. They recommend powering off and covering electronics before fogging.**

* Sams, Jim, Forensics Firm Says Disinfectant Foggers Can Damage Electronics, May 26, 2020, https://www.claimsjournal.com/news/national/2020/05/26/297233.htm

Training: Use of All Types of Disinfectant Applicators

- Try to get the best ventilation possible by turning on the HVAC or opening a window.
- Spray disinfectant when no one is present in the space.
- Work your way from the farthest area in the space to the door exit.
- Spray the disinfectant on all targeted surfaces (not in air) until the surface is visibly wet.
- Leave the area for the length of the contact time required on the label for the surfaces to dry (e.g. 1–10 minutes).
- Rinse or wipe disinfectant, if required on the label. Higher concentrations of product may leave more of a residue.
- Clean and disinfect cleaning equipment.
- Remove PPE used and wash hands.
- Allow reentry when all surfaces are dry and there are no chemical vapors in the space.

Training: Microfiber Supplies

- **Notes:**
  - **Microfiber cloth is the most effective type of cloth to use for cleaning and removing germs from a surface.**
  - **It is essential to organize a microfiber collection, laundering and distribution system to be successful. Options: washing on-site and laundering services (available on SWC FAC85).**

- **Training**
  - **Use**
  - **Laundering**

See project fact sheet, *Using Microfiber Cloths and Mops for Infection Control* for more information.

Surfaces/Items to Disinfect

CDC Decision Making Tool for Determining When to Clean and Clean and Disinfect

https://www.cdc.gov/coronavirus/2019-ncov/community/cleaning-disinfecting-decision-tool.html

CLEANING with soap and water removes germs and dirt from surfaces. It lowers the risk of spreading infection.

DISINFECTING kills germs on surfaces. By killing germs on a surface after cleaning, it can further lower the risk of spreading disease.

Is the area indoors?

Yes

Is it an indoor area?

No

Maintain existing cleaning practices.

Coronaviruses naturally die in hours to days in typical indoor & outdoor environments.

Viruses are killed more quickly by warmer temperatures and sunlight.

Has the area been occupied in the last 7 days?

Yes

The area has been occupied within last 7 days.

No

The area has been unoccupied within the last 7 days.

The area will need only routine cleaning.

It is frequently touched surface or object?

Yes

It is a frequently touched surface or object.

No

Thoroughly clean these materials. Consider setting a schedule for routine cleaning and disinfection, as appropriate.

What type of material is the surface or object?

Hard, nonporous surfaces like glass, metal or plastic.

Soft and porous materials like carpet, or seating material.

Visibility dirty surfaces should be cleaned prior to disinfection.

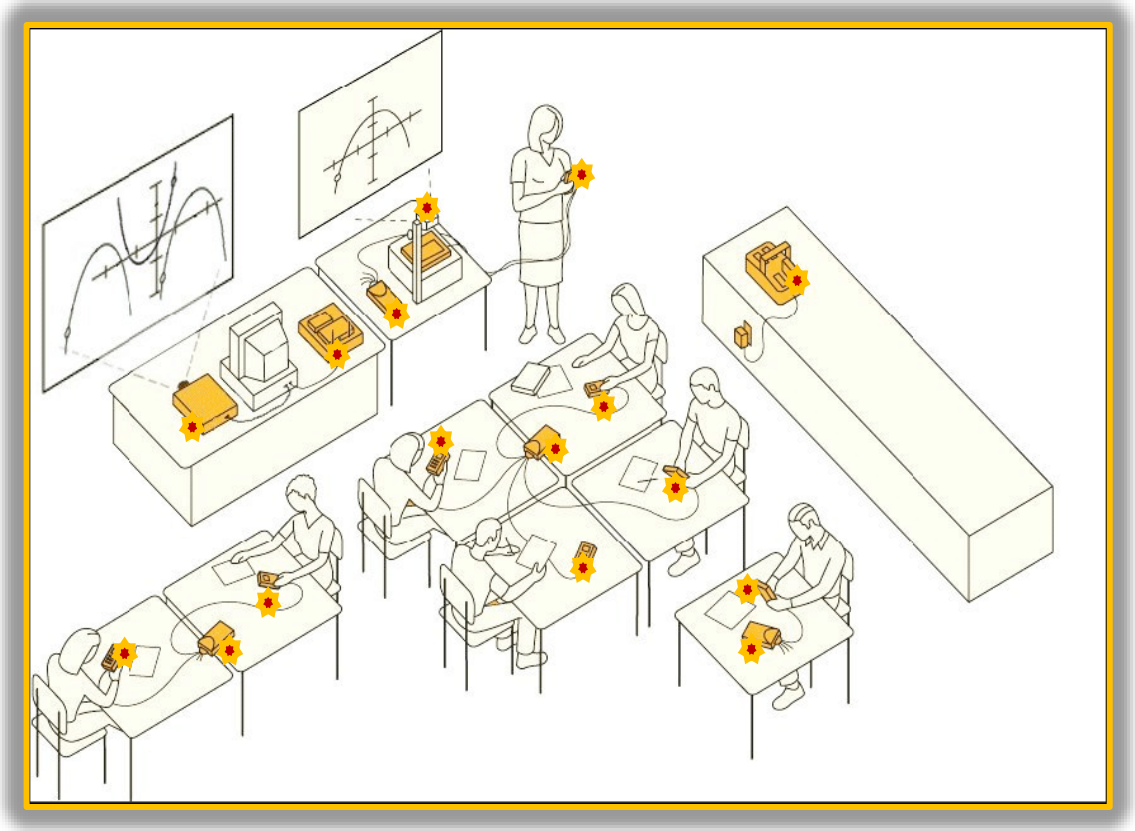
More frequent cleaning and disinfection is necessary to reduce exposure

Thoroughly clean or launder materials.

Consider removing porous materials in high traffic areas.

Disinfect materials if appropriate products are available.

Cleaning and Disinfecting



Common High-Touch Points
By
Location in School Building

Customizable Templates

This document is available on TURI website

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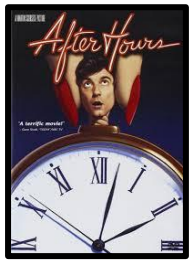
Training on Cleaning and Disinfecting Work Practices

Ensure Safety and Efficacy

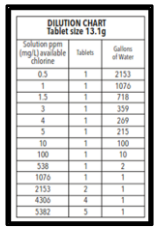
- Understand product hazards - read labels and SDSs.

- Check expiration date on disinfectants, sanitizers and hand sanitizers
- Wear PPE, especially when dispensing concentrates

- Schedule disinfection activities



- Ventilate the space as much as possible
- Follow dilution rate instructions exactly for specific uses. Do not mix chemicals!



DILUTION CHART
Tablet size 13.1g

Solution ppm (mg/L) available chlorine	Tablets	Gallons of Water
0.5	1	2153
1	1	1076
1.5	1	718
3	1	359
4	1	269
5	1	215
10	1	100
100	1	10
538	1	2
1076	1	1
2153	2	1
4300	4	1
5382	5	1

- Preclean and rinse surface – for disinfectant to be most effective.
- Follow label directions for the “contact time” it must stay wet.
- Wash hands after removing gloves.

PUR:ONE is also effective as a Healthcare disinfectant for bloodborne viruses (HIV-1, Hepatitis A Virus, Hepatitis B Virus and Hepatitis C Virus) when used at a level of 4306 ppm available chlorine disinfectant solution with a 1 minute contact time, in 5% organic soil load.

Strategies for Preventing Cross Contamination (transfer of germs from one location to another)

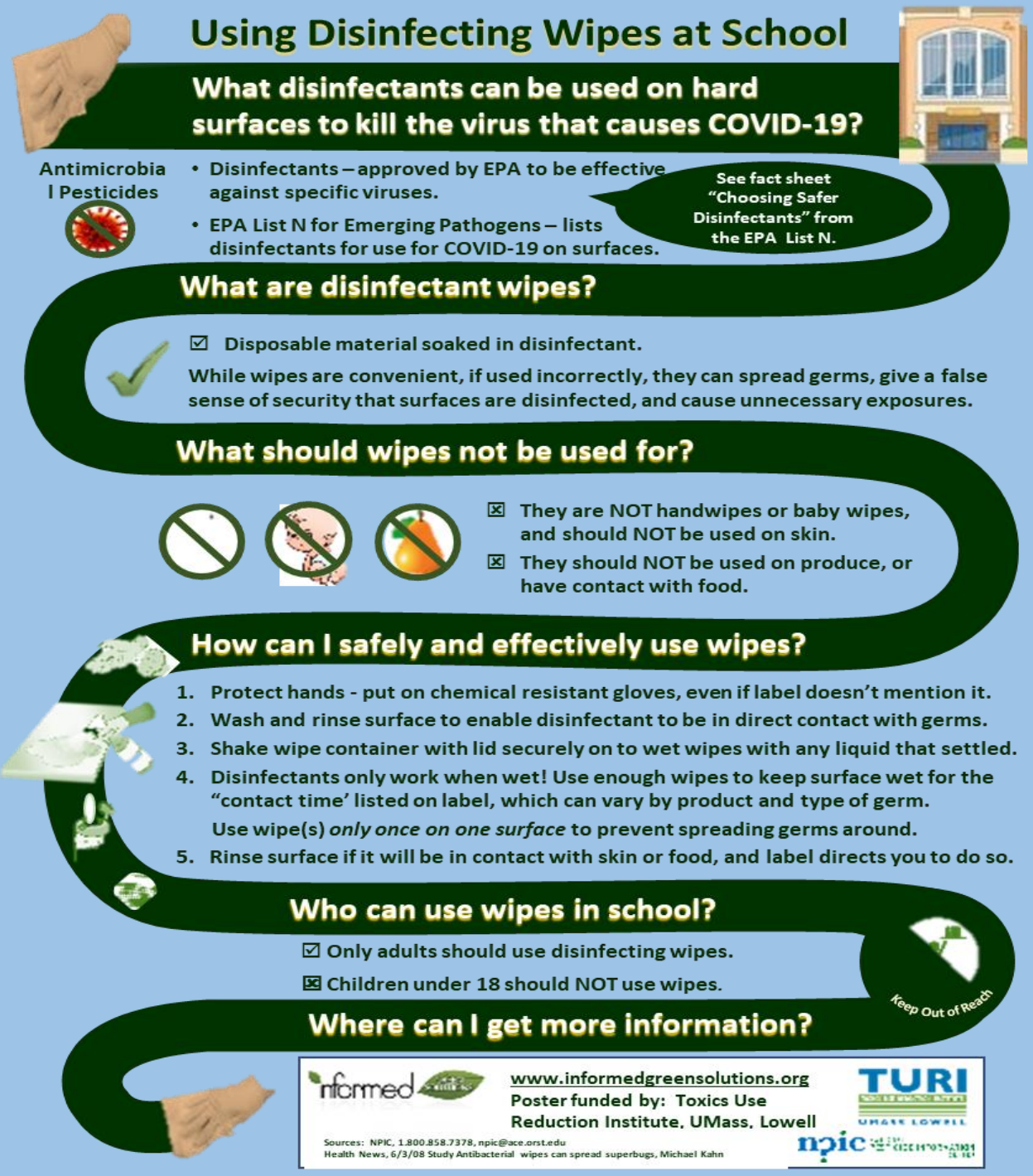
- **Use one side of a cloth for each surface cleaned. The 8 fold method helps with this.**

- **Use a different set of cloths for different spaces (e.g. kitchen versus bathroom).**
- **Allow laundered cloths to dry before reuse.**
- **Clean hands and shared equipment after disinfecting.**

Developed by Lynn Rose

Wipes

- There are numerous types of wipes for different purposes: disinfecting, sanitizing, cleaning and hand wipes.
- There is extensive misuse of wipes.
- Use the correct product for the job to prevent exposures to disinfectants.
- Always wear gloves and clean the surface before using a disinfecting wipe.



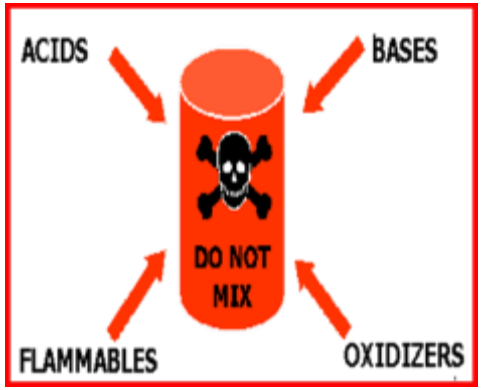
Protocols and Training: Chemical and Trash Management

How to Prevent a Buffalo Wild Wings Incident in Your Building!

Store disinfectant and cleaning products by hazard categories to prevent hazardous reactions.

Common disinfectant ingredients are in these hazard categories:

1. **Acids – lactic acid, citric acid, hydrogen peroxide, Peroxyacetic Acid, some alcohol based products**
2. **Bases – quaternary compounds, some alcohol based products are slightly above corrosive**
3. **Flammables – alcohol (quantities may require a flam cabinet)**
4. **Oxidizers – bleach, hydrogen peroxide, hypochlorous acid**



Separate and store products in the following categories:

Top Shelf – on any type material and with any product, except for MP 32

- **EcoSuds – Pot & Pan Detergent**

- **No Rinse Sanitizer**

Second Shelf Down - on a plastic, painted wood or painted metal

- **Converge - Automatic Dishwasher Detergent**

- **Bon Ami - Powdered Cleanser**

- **Oven & Grill - Appliance Cleaner**

- **Steramine – Sanitizer Tablets**

- **Brisk – Laundry Detergent**

Third Shelf Down - on plastic, painted wood or painted metal

- **EcoScale – Descaler**

- **EcoRinse - Rinse Aide**

Bottom Shelf – or store alone on a non-wood shelf (use plastic or painted metal)

- **MP 32 – All-Purpose Cleaner**

Base

Neutral pH

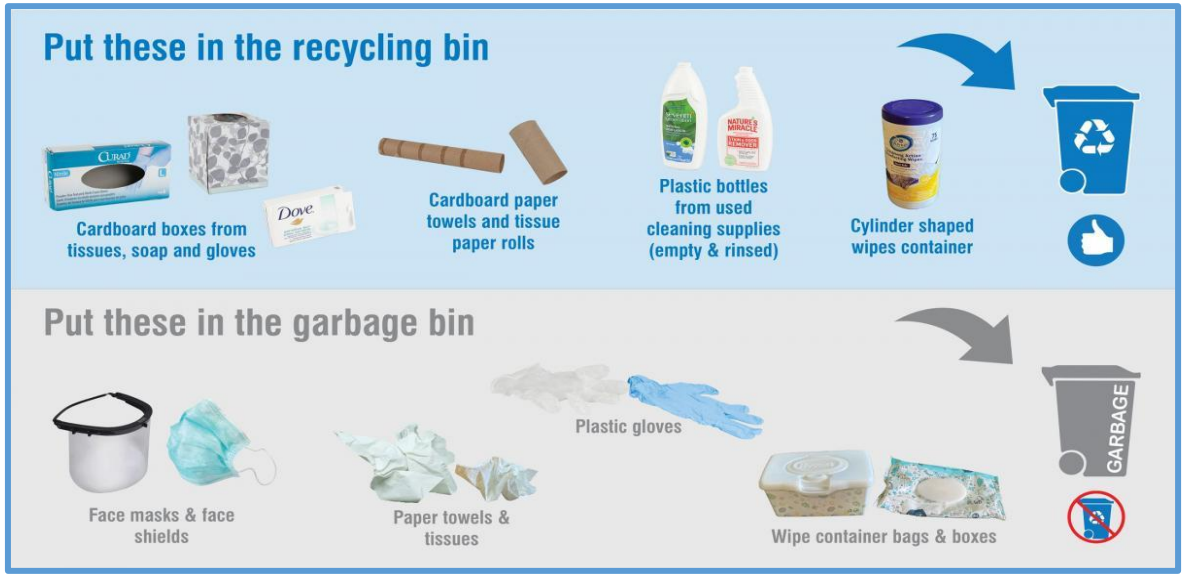
Acidic

Oxidizer/ Reactive

Sample shelf storage plan based on chemical compatibility.

Managing Trash!

Prevent any contamination from trash being distributed throughout building!



- **Line trash cans.**
- **Keep trash covered whenever possible.**
- **Keep COVID-19 contaminated trash and daily trash separate.**
- **Empty COVID-19 trash immediately.**
- **Enclose ventilation filters in a trash bag and tie bag for each filter.**
- **Close up trash from each room as it is collected and put in trashcan.**

Procurement Challenges

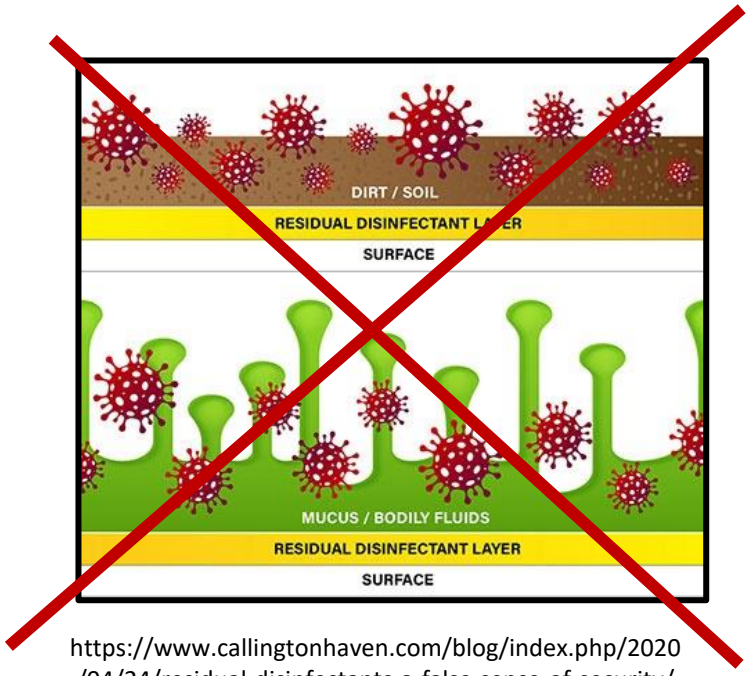
Procurement Challenges

- **Departments and people in agencies purchasing disinfectants and PPE who have not previously been involved in purchasing chemicals - examples:**
  - **Safety, IT and Transportation departments**
  - **HR and COVID-19 Leaders/Point People**

- **Issues with Product and Equipment Vendors:**
  - **Selling products and equipment they are not familiar with**
  - **Making claims and promoting inappropriate use of products in disinfection application equipment**
  - **Unaware of appropriate product concentrations**

Procurement Challenges

- **Issues with Product and Equipment Vendors, continued:**
  - **Promoting products with false claims (e.g. products with residual viral activity)**
  - **Currently, disinfectants on List N cannot claim residual activity for viruses.**
  - **A product registered by EPA as a Disinfectant/Sanitizer (using used at different dwell times), can only make claims for the sanitizer for "bacteria".**

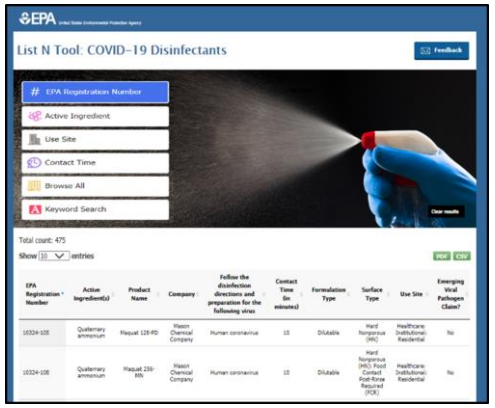


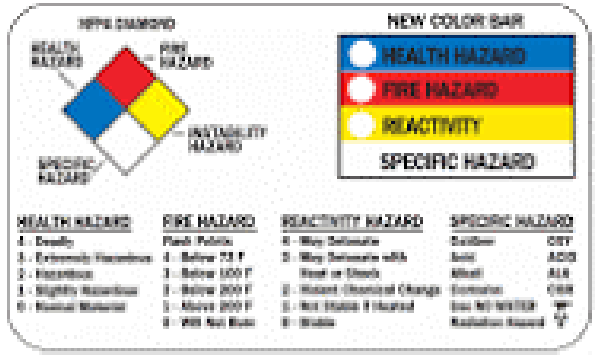
https://www.callingtonhaven.com/blog/index.php/2020/04/24/residual-disinfectants-a-false-sense-of-security/

- **EPA is currently facilitating an "Expedited Review Process" for products that qualify, which fall into two major categories;**
  - **disinfectants that also provide residual efficacy, and**
  - **supplemental residual antimicrobial products (e.g., coatings, paints, solid surfaces) that do not meet EPA's standards for disinfectants but are intended to be used as a supplement to List N disinfectants.**

Questions to Ask Vendors When Selecting Disinfectants

- When will the product be available?
- Is the product on EPA's List N?
- What is the EPA Registration number?
- Is the active ingredient on the EPA DFE list?
- What are the product's hazards? (HMIS/NFPA)
- What is the product dilution rate for COVID-19?
- What is the contact time for COVID-19?
- What PPE and ventilation is required?
- What applicator equipment can the product be used with per the label?





Example of a Product Formulation with Many Faces

Product Name	Grams per tablet	Number tablets to make a gallon	Grams per gallon (g per tab x # tabs)	PPM for COVID 19	Dwell time
Effersan	4.0 grams	4	16 grams per gallon	1,150 PPM	5 minutes
ViroTab	6.55 grams	2	13.1 grams per gallon	1,076 ppm	10 minutes
		8	52.4 grams per gallon	4,306 ppm	1 minute
Clearon EZ Bleach	5.0 grams	2.5	12.5 grams per gallon	958 ppm (383.2 ppm per tab)	10 minute
		Or use 3 tabs so don't have to split one	15 grams per gallon	Only requires 958 ppm, but with 3 tabs it will be 1,149.6 ppm	10 minute

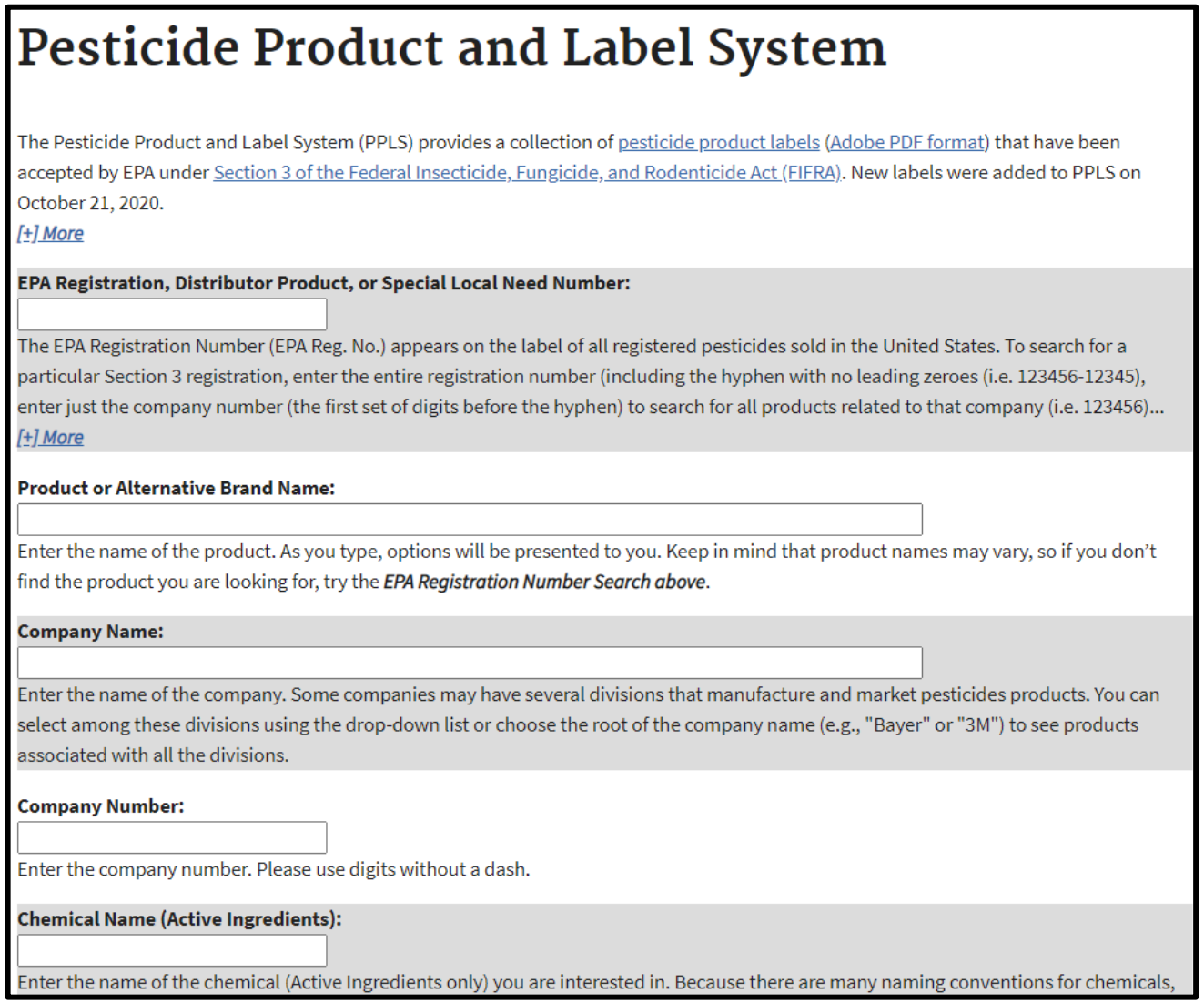
An example of how the same exact formulation can have different product names, come in different sizes and concentrations, require different dilution rates, and have different contact times.

Finding Labels for Anti-Microbial Pesticides

AKA Disinfectants

- **Check guidance on the disinfectant label for:**
  - **Contact times**
  - **Dilution rates**
  - **Types of application equipment that it can be used in.**
- **EPA look-up search for labels:**

https://iaspub.epa.gov/apex/pesticides/f?p=PPLS:1



Pesticide Product and Label System

The Pesticide Product and Label System (PPLS) provides a collection of pesticide product labels (Adobe PDF format) that have been accepted by EPA under Section 3 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). New labels were added to PPLS on October 21, 2020.

[+] More

EPA Registration, Distributor Product, or Special Local Need Number:

The EPA Registration Number (EPA Reg. No.) appears on the label of all registered pesticides sold in the United States. To search for a particular Section 3 registration, enter the entire registration number (including the hyphen with no leading zeroes (i.e. 123456-12345), enter just the company number (the first set of digits before the hyphen) to search for all products related to that company (i.e. 123456)...

[+] More

Product or Alternative Brand Name:

Enter the name of the product. As you type, options will be presented to you. Keep in mind that product names may vary, so if you don't find the product you are looking for, try the ***EPA Registration Number Search above***.

Company Name:

Enter the name of the company. Some companies may have several divisions that manufacture and market pesticides products. You can select among these divisions using the drop-down list or choose the root of the company name (e.g., "Bayer" or "3M") to see products associated with all the divisions.

Company Number:

Enter the company number. Please use digits without a dash.

Chemical Name (Active Ingredients):

Enter the name of the chemical (Active Ingredients only) you are interested in. Because there are many naming conventions for chemicals,