Safe Cleaning and Disinfecting in Early Childcare Centers for COVID-19

Utah APPLETREE Program
The Utah Department of Health’s mission is to protect the public’s health through preventing avoidable illness, injury, disability, and premature death; assuring access to affordable, quality health care; and promoting healthy lifestyles.

Our vision is for Utah to be a place where all people can enjoy the best health possible, where all can live and thrive in healthy and safe communities.
Healthiest People – The people of Utah will be among the healthiest in the country.

Optimize Medicaid – Utah Medicaid will be a respected innovator in employing health care delivery and payment reforms that improve the health of Medicaid members and keep expenditure growth at a sustainable level.

A Great Organization – The UDOH will be recognized as a leader in government and public health for its excellent performance. The organization will continue to grow its ability to attract, retain, and value the best professionals and public servants.
Overview

Utah Choose Safe Places Program

Why safe cleaning and disinfecting is important

How to safely clean and disinfect for COVID-19

Healthy hand hygiene

Additional tools and resources
Why the concern?

Calls to U.S. poison centers about cleaners and disinfectants exposures increased by 20%

FIGURE. Number of daily exposures to cleaners and disinfectants reported to U.S. poison centers — United States, January–March 2018, 2019, and 2020.*

https://www.cdc.gov/mmwr/volumes/69/wr/mm6916e1.htm
Utah Choose Safe Places Program

Utah APPLETREE
ATSDR’s Partnership to Promote Localized Efforts to Reduce Environmental Exposures

Choose Safe Places for Early Care and Education

Bureau of Epidemiology

Utah Choose Safe Places
for Early Care and Education

Across the country, including Utah, child care and early education programs have been found in locations that could expose children and staff to environmental contamination. The Utah APPLETREE Program, in partnership with the Agency for Toxic Substances and Disease Registry (ATSDR), aims to reduce children's exposure to harmful environmental pollutants where they live, learn, and play by assisting with safe siting of early care and education facilities.
The Novel Coronavirus – COVID-19

**Surfactants**

*The Coronavirus* has a membrane of oily lipid molecules, which is studded with proteins that help the virus infected cells.

**Soap Molecules** have a hybrid structure, with a head that bonds to water and a tail that avoids it.

**Soap Destroys the Virus** when the water-shunning tails of the soap molecules wedge themselves into the lipid membrane and pry it apart.

**Soap Traps Dirt** and fragments of the destroyed virus in tiny bubbles called micelles, which wash away in water.
Coronaviruses and Reducing the Risk of Exposure:

- Coronaviruses on surfaces and objects naturally die within hours to days.

- Normal routine cleaning with soap and water removes germs and dirt from surfaces.

- Disinfectants kill germs on surfaces.
  - EPA-approved disinfectants
Safe Cleaning & Disinfecting
Cleaning vs Sanitizing vs Disinfecting

**Cleaning** removes germs, dirt, and grime from surfaces or objects. Does not necessarily kill germs.

**Sanitizing** lowers the number of germs to a safe level. Works by either cleaning or disinfecting surfaces or objects.

**Disinfecting** kills germs on surfaces or objects. Works by using chemicals to kill germs.
Contact Time or Dwell Time is the amount of time disinfectants need to remain wet on surfaces to properly disinfect.

- Range from 30 seconds to 10 minutes.
- Don’t let dry before contact time ends.
Choosing Safer Cleaning Products

Question:

➢ What type of cleaning/disinfecting products do you currently use?
   a. Bleach
   b. Ammonia
   c. Other
Common Disinfectants: Bleach

Bleach

- Most common disinfectant
- Dwell time usually 5 – 10 min
- Acute eye, throat & skin irritant
- Designated asthmagen

- Responsible for 62% increase in poison center calls
Common Disinfectants: QACs

Quaternary Ammonia Compounds

- Type of detergent
- Usual dwell times: 4 – 10 min
- Ammonia released during cleaning
- Causes skin and eye irritation
- Asthmagen

- Evidence in animal studies that it is a mutagen and reproductive harm
What are the health concerns?

Many common household cleaning products contain chemicals that can harm your body. Some of these chemicals can:

- cause or trigger asthma.
- cause cancer.
- irritate or chemically burn your lungs and skin.
- affect the health of unborn babies.
What are the health concerns?

The risk of experiencing these health effects depends on:

- how hazardous the product is and how concentrated it is.
- how often the product is used.
- the amount that gets into your body.
- the age and health of the person exposed.
What are the health concerns?

Children are more at risk because:

- their bodies are still growing and developing.
- their bodies can’t flush out harmful chemicals as fast.
- crawling and hand-to-mouth contact.
Choosing Safer Cleaning Product

Question:
➢ Do you search for cleaning products that contain the words “green”, “natural” or “nontoxic” that appear on product labels?

Question:
➢ These products are safer and less toxic?
Choosing Safer Cleaning Product

- The words “natural”, “nontoxic”, and “green” that appear on product labels are *unregulated* by the government.

- Researchers have found that products labeled “green” often have as many *toxic chemicals* as conventional cleaning products.

- Cleaning products **do not** have to *list ingredients* on the label and manufacturers do not have to prove that they are safe before they market them.
Choosing Safer Cleaning Products

- Third-party certified cleaning products:

  - EcoLogo
  - Green Seal
  - Design for the Environment
EPA’s Design for the Environment

Antimicrobial Project

Search Products that Meet the Safer Choice Standard

Active Ingredients for Use in Antimicrobial Products that Qualify for the DfE Logo

<table>
<thead>
<tr>
<th>Active Ingredients</th>
<th>Year Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citric acid</td>
<td>2009</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>2009</td>
</tr>
<tr>
<td>L-lactic acid</td>
<td>2009</td>
</tr>
<tr>
<td>Ethanol</td>
<td>2012</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>2012</td>
</tr>
<tr>
<td>Peroxyacetic acid</td>
<td>2015</td>
</tr>
<tr>
<td>Sodium Bisulfate</td>
<td>2015</td>
</tr>
</tbody>
</table>

https://www.epa.gov/saferchoice/products#a04i000000WupsXAAR
### EPA’s List-N Tool

Look for DfE Products on N list

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[https://cfpub.epa.gov/giwiz/disinfectants/index.cfm](https://cfpub.epa.gov/giwiz/disinfectants/index.cfm)
What if all I have is Bleach or QACs?

- Wear gloves and eye protection
- Dilute disinfectants per the package instructions
- Do not combine disinfectants or mix with other chemicals
- Ventilate with open doors, windows and fans
- Do not use around children
Dilution Recommendations

➢ Have a designated dilution station

➢ Don’t disinfect if you only need to sanitize

To sanitize food contact surfaces:

1. Mix 2 tsp of Clorox® Disinfecting Bleach, w/ 1 gal. water
2. Remove food from surfaces
3. Wash, rinse & wipe surface with bleach solution for at least 2 min
4. Let air dry

To disinfect surfaces:

1. Mix ½ cup Clorox® Disinfecting Bleach, w/1 gal. water
2. Pre-wash surface
3. Mop or wipe w/bleach solution
4. Let solution contact surface for at least 5 min
5. Rinse well and air dry

*Hard, non-porous surfaces
### Don’t Play Chemist!

<table>
<thead>
<tr>
<th>Combination</th>
<th>Reaction Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bleach + Vinegar</strong></td>
<td>Bleach and vinegar mixture produces chlorine gas, which can cause coughing, breathing problems, burning and watery eyes.</td>
</tr>
<tr>
<td><strong>Bleach + Ammonia</strong></td>
<td>Bleach and ammonia produce a toxic gas called chloramine. It causes shortness of breath and chest pain.</td>
</tr>
<tr>
<td><strong>Bleach + Rubbing Alcohol</strong></td>
<td>Bleach and rubbing alcohol make chloroform, which is highly toxic.</td>
</tr>
<tr>
<td><strong>Hydrogen Peroxide + Vinegar</strong></td>
<td>This combination makes peracetic/peroxyacetic acid, which can be highly corrosive</td>
</tr>
</tbody>
</table>
Cleaning Equipment & Supplies

- **Microfiber** clothes are better at picking up dirt and grime
- Can wash and reuse

- **Sponges** can harbor bacteria
- Place in dishwasher or soak for 1 min in a ½ teaspoon of bleach to 1 quart of water solution
Are there other disinfecting methods?

Ultraviolet (UV) Light Hand Wands

- Effective in killing germs
  - BUT no concrete evidence for COVID-19
- Commercial wands aren’t regulated & not enough sufficient scientific study on effectiveness.
- Can be harmful → cause cancer & damage eyes.
- Would not recommend use in ECEs.

https://www.epa.gov/coronavirus/why-arent-ozone-generators-uv-lights-or-air-purifiers-list-n-can-i-use-these-or-other
What about other disinfectant methods?

Fogging (Fumigation or Misting)

➢ Fogging and wide area spraying may increase exposure to left over disinfectant.

➢ May be an electrical hazard.

➢ The CDC does not recommend the use of fogging for routine disinfecting.

CDC only recommends use of liquid surface disinfectants identified on List N, according to label directions, against COVID-19.

https://www.cdc.gov/infectioncontrol/guidelines/disinfection/updates.html

https://www.epa.gov/coronavirus/can-i-use-fumigation-or-wide-area-spraying-help-control-covid-19
CDC Recommendations for When & Where to Clean?

➢ **Indoor areas:**

- Clean and disinfect frequently touched (by many people) hard surfaces/objects often.
  - Door handles or knobs
  - Locks
  - Light switches
  - Tables and counters
  - Cabinet and appliance handles
  - Toilet flushers
  - Faucets
Consider removing soft or porous materials through high traffic areas.

- Thoroughly clean or launder materials.
- Disinfect materials if appropriate products are available.

Soft and porous materials like carpet or rugs:
Outdoor areas:

- Maintain existing cleaning practices.
- High touch surfaces made of plastic or metal, such as grab bars and railings should be cleaned, but not disinfected routinely.
- Cleaning and disinfecting of wooden surfaces (play structures, benches, tables) is not recommended.
**Routine Schedule for Cleaning, Sanitizing, and Disinfecting**

<table>
<thead>
<tr>
<th>Areas</th>
<th>Before Each Use</th>
<th>After Each Use</th>
<th>Daily (At the End of the Day)</th>
<th>Weekly</th>
<th>Monthly</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Child Care Areas</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Plastic mouthed toys</td>
<td>Clean</td>
<td>Clean</td>
<td>Clean, Sanitize</td>
<td></td>
<td></td>
<td>Can use dishwasher to sanitize</td>
</tr>
<tr>
<td>• Pacifiers</td>
<td>Clean</td>
<td>Clean</td>
<td>Clean, Sanitize</td>
<td></td>
<td></td>
<td>Reserve for use by only one child; Use dishwasher or boil for one minute</td>
</tr>
<tr>
<td>• Hats</td>
<td></td>
<td>Clean</td>
<td></td>
<td></td>
<td></td>
<td>Clean after each use if head lice present</td>
</tr>
<tr>
<td>• Door &amp; cabinet handles</td>
<td></td>
<td>Clean</td>
<td>Clean, Disinfect</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
When and Where To Clean?

6 Steps for Safe and Effective Disinfectant Use

Step 1
- Check that product is EPA approved
- Check EPA’s List N Tool at: epa.gov/listn

Step 2
- Read the directions
- Check “use sites” and “surface types”

Step 3
- Pre-clean the surfaces
- Use soap and water

Step 4
- Follow the contact time
- Surface should remain wet the whole time

Step 5
- Wear gloves and wash your hands
- Dedicate a pair for disinfecting COVID-19

Step 6
- Lock it up
- Store out of reach of children
Choosing Safer Cleaning Products

Question:

➢ It is safe to use cleaning or disinfecting products on hands or skin to prevent the spread of coronavirus?
   a. Yes
   b. No
   c. Unsure
Healthy Hand Hygiene
Healthy Hand Hygiene

All children, staff, and volunteers should engage in hand hygiene at the following times:

- Arrival to the facility and after breaks
- Before and after preparing food or drinks
- Before and after eating or handling food, or feeding children
- Before and after administering medication or medical ointment
- Before and after diapering
- After using the toilet or helping a child use the bathroom
- After coming in contact with bodily fluid
- After playing outdoors or in sand
- After handling garbage
Hand Washing vs Hand Sanitizer

**Hand Washing**

- Any soap, liquid or bar soap, works.
- Wash hands with **soap** and **water** for at least **20 seconds**.
- Assist children with handwashing, including infants who cannot wash hands alone.
- Hand washing is always preferred to hand sanitizer.
Hand Sanitizer

- Make sure you use hand sanitizer with at least **60% alcohol** (ethanol or isopropanol).
- Use enough to completely wet all areas of hands.
- Rub for at least **20 seconds** or until your hands feel dry.
- **Supervise** children when using hand sanitizer.
FDA Updates on Hand Sanitizers with Methanol

Hand sanitizers consumers should not use

Spanish version

7/27/2020 PRESS RELEASE - Coronavirus (COVID-19) Update: FDA Reiterates Warning About Dangerous Alcohol-Based Hand Sanitizers Containing Methanol,
Choose safer cleaning products from EPA’s DfE and the N List.
Read labels carefully and follow instructions.
Clean first and then sanitize/disinfect.
Ventilate, ventilate, ventilate!
Properly store cleaning products away from children.
Hand washing is preferred over hand sanitizer.
Resources & References

- [Utah CSP website](https://health.utah.gov/ucsp/)
- [EPA Safer Choice Standard](https://www.epa.gov/saferchoice/products#a04i000000WupsXAAR)
- [Western States PEHSU Environmental Fact Sheet](https://wspehsu.ucsf.edu/main-resources/fact-sheets/)
- [EPA Use of UV, Ozone and Air Purifiers for COVID-19](https://www.epa.gov/coronavirus/why-arent-ozone-generators-uv-lights-or-air-purifiers-list-n-can-i-use-these-or-other)
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www.health.utah.gov/enviroepi/appletree