

A 3D architectural rendering of a school hallway. The hallway is long and brightly lit with recessed ceiling lights. On both sides of the hallway are rows of orange lockers. A large clock is mounted on the left wall. In the distance, a whiteboard is mounted on the wall with the word 'INFORMATION' written above it. The floor is made of light-colored tiles.

# ASK THE EXPERTS: Cleaning Nevada Schools During COVID-19

A Panel Discussion

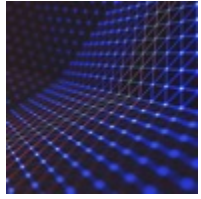


# WELCOME!

- Connect
- Share best practices, experiences
- Provide information, resources and opportunity

As we move through closure to reopening during COVID-19





# Housekeeping issues

Please keep your mics on mute.

BEP will monitor the chat box for questions. You can type questions in at any time. We will hold them until the end of the presentations.

# UNR Business Environmental Program

Chris Lynch – Director

Eric Florio – Air Quality  
Specialist

Nancy Crickman – Grants &  
Admin Specialist

Liz Futch – Project Manager




B|E|P

BUSINESS  
ENVIRONMENTAL  
PROGRAM  
N E V A D A





# PANELISTS

- Sarah Sullivant and John Katz, US EPA Region 9
  - Mark Bergholdt, Southern Nevada Health District (SNHD)
  - Mervin Brewer, Salt Lake City School District (SLSD) and Green Schools & Colleges Program
  - Bill Blumenthal, Douglas County School District (DCSD)
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# Cleaning and Disinfecting Information

For School Districts,  
Administrators,  
Childcare Facilities and  
Other Educational Professionals

*Sarah Sullivant – Children's Environmental Health  
Coordinator, US EPA Region 9*

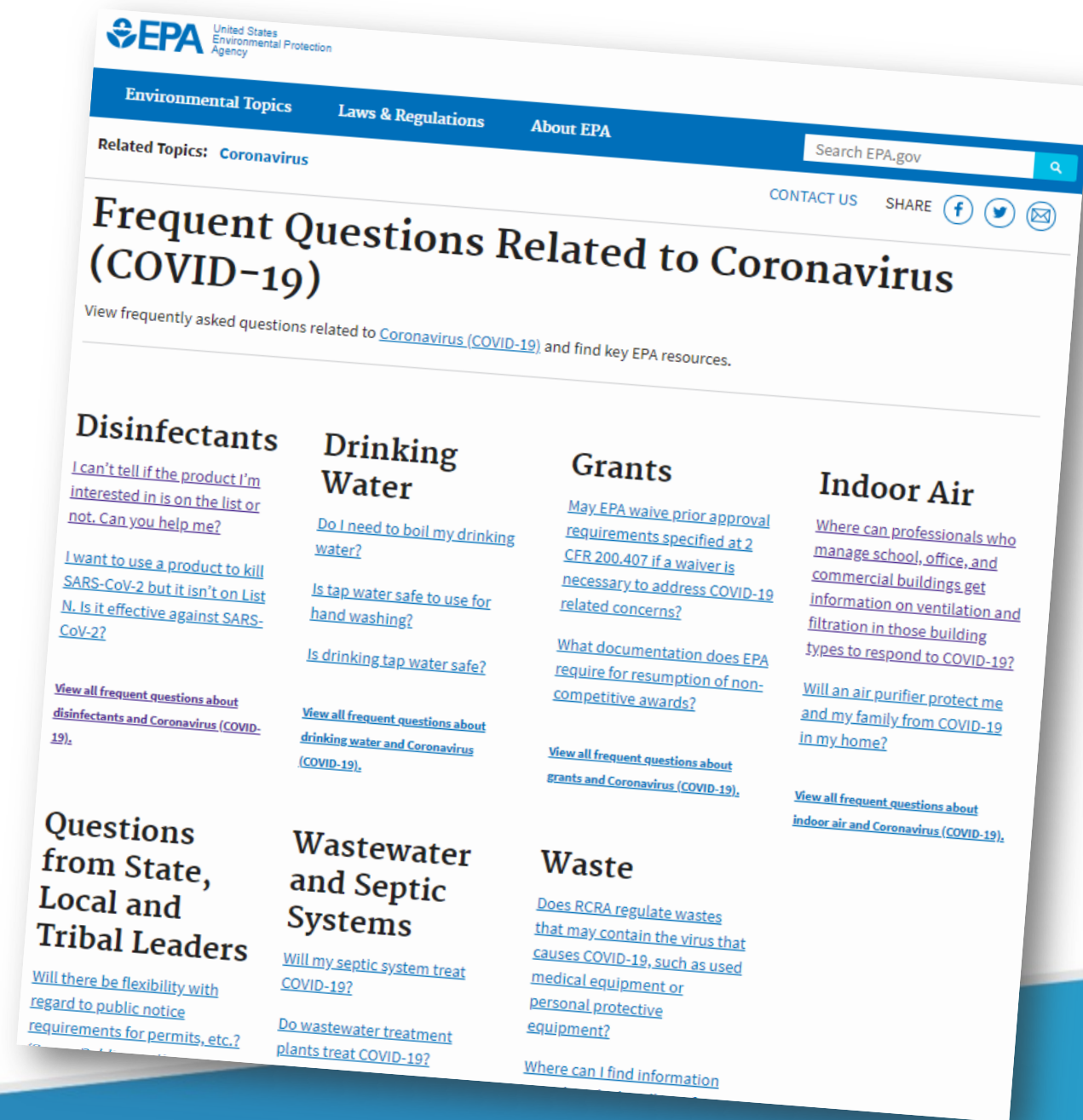
*John Katz - Pollution Prevention Coordinator,  
US EPA Region 9*

May 14, 2020

# EPA Resources

- [Frequently Asked Questions Related to Coronavirus](#)
- Office of Chemical Safety and Pollution Prevention April 28, 2020  
[Press Release](#)
  - [The Guidance for Cleaning and Disinfecting Public Spaces, Workplaces, Businesses, Schools, and Homes](#) from EPA and CDC
    - [Cleaning and Disinfecting Tool](#)
    - Approved [List of Disinfectant](#) Products for Use Against SARS-CoV-2
- [Safer Choice Labeled Products](#)
- [Design for the Environment Antimicrobials](#)

# FAQ on Coronavirus



# April 28, 2020 Guidance from EPA and CDC

- Includes additional linked resources throughout and in the conclusion
- Schools and Childcare Programs
  - [K-12 and Childcare Interim Guidance](#)
  - [Cleaning and Disinfecting your Facility](#)
  - [FAQ for Administrators](#)
  - [Parent and Teacher Checklist](#)
- Colleges and Universities
  - [Interim Guidance for Colleges & Universities](#)
  - [Cleaning and Disinfecting your Facility](#)
  - [Guidance for Student Foreign Travel](#)
  - [FAQ for Administrators](#)

## GUIDANCE FOR CLEANING AND DISINFECTING

### PUBLIC SPACES, WORKPLACES, BUSINESSES, SCHOOLS, AND HOMES



SCAN HERE  
FOR MORE  
INFORMATION

This guidance is intended for all Americans, whether you own a business, run a school, or want to ensure the cleanliness and safety of your home. Reopening America requires all of us to move forward together by practicing social distancing and other [daily habits](#) to reduce our risk of exposure to the virus that causes COVID-19. Reopening the country also strongly relies on public health strategies, including increased testing of people for the virus, social distancing, isolation, and keeping track of how someone infected might have infected other people. This plan is part of the larger [United States Government plan](#) and focuses on cleaning and disinfecting public spaces, workplaces, businesses, schools, and can also be applied to your home.

#### **Cleaning and disinfecting public spaces including your workplace, school, home, and business will require you to:**

- Develop your plan
- Implement your plan
- Maintain and revise your plan

Reducing the risk of exposure to COVID-19 by cleaning and disinfection is an important part of reopening public spaces that will require careful planning. Every American has been called upon to slow the spread of the virus through social distancing and prevention hygiene, such as frequently washing your hands and wearing face coverings. Everyone also has a role in making sure our communities are as safe as possible to reopen and remain open.

The virus that causes COVID-19 can be killed if you use the right products. EPA has compiled a list of disinfectant products that can be used against COVID-19, including ready-to-use sprays, concentrates, and wipes. Each product has been shown to be effective against viruses that are harder to kill than viruses like the one that causes COVID-19.

For more information, please visit **CORONAVIRUS.GOV**





# GUIDANCE FOR CLEANING & DISINFECTING

PUBLIC SPACES, WORKPLACES, BUSINESSES,  
SCHOOLS, AND HOMES



SCAN HERE  
FOR MORE  
INFORMATION

## 1 DEVELOP YOUR PLAN

**DETERMINE WHAT NEEDS TO BE CLEANED.** Areas unoccupied for 7 or more days need only routine cleaning. Maintain existing cleaning practices for outdoor areas.

**DETERMINE HOW AREAS WILL BE DISINFECTED.** Consider the type of surface and how often the surface is touched. Prioritize disinfecting frequently touched surfaces.

**CONSIDER THE RESOURCES AND EQUIPMENT NEEDED.** Keep in mind the availability of cleaning products and personal protective equipment (PPE) appropriate for cleaners and disinfectants.

Follow guidance from state, tribal, local, and territorial authorities.

## 2 IMPLEMENT

**CLEAN VISIBLY DIRTY SURFACES WITH SOAP AND WATER** prior to disinfection.

**USE THE APPROPRIATE CLEANING OR DISINFECTANT PRODUCT.** Use an EPA-approved disinfectant against COVID-19, and read the label to make sure it meets your needs.

**ALWAYS FOLLOW THE DIRECTIONS ON THE LABEL.** The label will include safety information and application instructions. Keep disinfectants out of the reach of children.

## 3 MAINTAIN AND REVISE

**CONTINUE ROUTINE CLEANING AND DISINFECTION.** Continue or revise your plan based upon appropriate disinfectant and PPE availability. Dirty surfaces should be cleaned with soap and water prior to disinfection. Routinely disinfect frequently touched surfaces at least daily.

**MAINTAIN SAFE PRACTICES** such as frequent handwashing, using cloth face coverings, and staying home if you are sick.

**CONTINUE PRACTICES THAT REDUCE THE POTENTIAL FOR EXPOSURE.** Maintain social distancing, staying six feet away from others. Reduce sharing of common spaces and frequently touched objects.

For more information, please visit [CORONAVIRUS.GOV](https://www.cdc.gov/coronavirus)



## MAKING YOUR PLAN TO CLEAN AND DISINFECT

**Cleaning** with soap and water removes germs, dirt, and impurities 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 infection.



Is the area indoors?

YES

It is an indoor area.

NO

Maintain existing cleaning practices.

Coronaviruses naturally die in hours to days in typical indoor and outdoor environments. Viruses are killed more quickly by warmer temperatures and sunlight.

Has the area been occupied within the last 7 days?

YES

Yes, the area has been occupied within the last 7 days.

NO

The area has been unoccupied within the last 7 days.  
The area will need only routine cleaning.



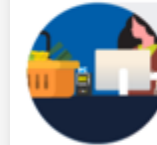
Is it a frequently touched surface or object?

YES

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 and non-porous materials  
like glass, metal, or plastic.

Visibly dirty surfaces should be cleaned prior to disinfection.

Consult EPA's list of disinfectants for use against COVID-19, specifically for use on hard, non-porous surfaces and for your specific application need. More frequent cleaning and disinfection is necessary to reduce exposure.

Soft and porous materials like carpet,  
rugs, or material in seating areas.

Thoroughly clean or launder materials.

Consider removing soft and porous materials in high traffic areas. Disinfect materials if appropriate products are available.



# Cleaning and Disinfecting Tool



# Finding Products: Cleaning and Disinfecting

EPA United States Environmental Protection Agency

Environmental Topics Laws & Regulations About EPA Search EPA.gov

CONTACT US SHARE f t e

## Safer Choice

Safer Choice Home  
Learn About Safer Choice  
Frequently Asked Questions  
Resources for Manufacturers  
Partner of the Year Awards  
**Search Safer Choice Products**  
For Use in Your Community  
Safer Chemical Ingredients List  
How to List on SCIL  
Safer Choice Standard and Criteria  
Related Programs  
DfE Alternatives Assessments  
DfE Life-Cycle Assessments  
DfE Workplace Best Practices  
DfE for Pesticides

### Search Products that Meet the Safer Choice Standard

EN ESPAÑOL

Looking for safer cleaning and other products? Use the search box below to find products that meet the Safer Choice Standard.

**Search Products**

Product or Company Name (Optional)

Home or Business Use (Optional)

Show only:  
☐ Fragrance-free products<sup>1</sup>  
☐ Products with outdoor uses<sup>2</sup>

Product Type (Optional)

Note: In the product listing, the notation ("I") means that the partner company is overdue for their yearly partnership review with Safer Choice.

EPA United States Environmental Protection Agency

Environmental Topics Laws & Regulations About EPA Search EPA.gov

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## Pesticide Registration

Pesticide Registration Home  
About Pesticide Registration  
Electronic Submission of Applications  
Pesticide Registration Manual  
Fees and Waivers  
Registration Information by Type of Pesticide  
— Antimicrobial Registration  
— Biopesticide Registration  
— Conventional Registration  
— Inert Ingredient Regulation

### List N: Disinfectants for Use Against SARS-CoV-2

All products on this list meet EPA's criteria for use against SARS-CoV-2, the virus that causes COVID-19.

#### Finding a Product

To find a product, enter the first two sets of its EPA registration number into the search bar below. You can find this number by looking for the EPA Reg. No. on the product label.

For example, if EPA Reg. No. 12345-12 is on List N, you can buy

View List N's information in our new tool

Other COVID-19 Resources

# EPA Registration Number  
Active Ingredient  
Use Site  
Contact Time  
Browse All  
Keyword Search

Search EPA's list of products for use against SARS-CoV-2, the virus that causes COVID-19, by selecting one or more of the corresponding criteria above. All products on this list meet EPA's criteria for use against SARS-CoV-2, the virus that causes COVID-19.

# Design for the Environment Antimicrobials



## What the DfE Logo Means on Antimicrobial Product Labels

If you see the DfE logo on an EPA-authorized antimicrobial pesticide label, you can be assured that the product:

- is in the least-hazardous classes (i.e., III and IV) of [EPA's acute toxicity category hierarchy](#);
- is unlikely to have [carcinogenic](#) or [endocrine disruptor properties](#);
- is unlikely to cause developmental, reproductive, mutagenic, or neurotoxicity issues;
- EPA has reviewed and accepted mixtures, including inert ingredients;
- does not require the use of [Agency-mandated personal protective equipment](#);
- has no unresolved or unreasonable [adverse effects reported](#);
- has no unresolved efficacy failures (associated with the [Antimicrobial Testing Program](#) or otherwise);
- has no unresolved compliance or enforcement actions associated with it; and
- has the identical formulation as the one identified in the DfE application approved by EPA.

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

Active Ingredients	Year Approved
<a href="#">Citric acid</a>	2009
<a href="#">Hydrogen peroxide</a>	2009
<a href="#">L-lactic acid</a>	2009
<a href="#">Ethanol</a>	2012
<a href="#">Isopropanol</a>	2012
<a href="#">Peroxyacetic acid</a>	2015
<a href="#">Sodium Bisulfate</a>	2015

# Important Considerations



Always follow the product label instructions and safety information, including leaving the product on the surface long enough to kill germs, rinsing off the product to avoid ingesting it, and putting the product out of reach of children right away. Follow these [“6 Steps for Safe and Effective Disinfectant Use.”](#)



Make sure children are not using disinfectants (including wipes!) and that teachers and staff have proper PPE, such as gloves, for using disinfectants.



Be especially careful using products with [bleach](#), and never mix disinfectant products with other disinfectants, detergents, or solutions. Try and avoid overuse of cleaners and sanitizers that are potential [asthma triggers](#).



Be vigilant of [counterfeit and ineffective products being sold on internet platforms](#).



Ventilation, adequate time before occupancy, social distancing, handwashing, and other practices are important for maintaining a healthy learning environment in addition to cleaning and disinfecting. Visit <https://www.coronavirus.gov/> for additional information.



## **Contact Information:**

**Sarah Sullivant – Children’s Environmental Health  
Coordinator, US EPA Region 9**

Email: [sullivant.sarah@epa.gov](mailto:sullivant.sarah@epa.gov)

Phone: 415-947-4226

**John Katz - Pollution Prevention Coordinator,  
US EPA Region 9**

Email: [katz.john@epa.gov](mailto:katz.john@epa.gov)

Phone: 415-972-3283



# Additional EPA Resources

- Indoor Environments Division's [April 13, 2020 bulletin](#) provides additional resources for schools
- [Creating Healthy Indoor Air Quality in Schools](#)
  - Includes best practices, training, webinars, and other resources
  - [School IAQ Assessment Mobile App](#)

# Additional Resources - WSPEHSU

- The Western States Pediatric Environmental Health Specialty Unit (WSPEHSU) created a fact sheet and infographic on "Safer Disinfectant Use During the COVID-19 Pandemic." This and other fact sheets (in English and Spanish) can be found at the top of the [Western States PEHSU webpage](#) on factsheets.
- The WSPEHSU also has a Green Cleaning Toolkit and other resources as a part of the [Environmental Health early Care and Education Project](#).
- Bleach is a commonly used disinfectant, but its use has potential health hazards for both children and adults. The Western States PEHSU developed an additional [fact sheet on bleach](#).

# Environmental Health in Clark County Schools

Mark Bergtholdt, REHS, MPH  
Environmental Health Supervisor  
Southern Nevada Health District



# Regulatory Authority

- Nevada Revised Statutes NRS 444.335 requires the health district to inspect schools once each semester.
- Nevada Revised Statutes NAC 444.568 et seq. sets the requirements that a school must meet.
- NAC 441A.190 also requires health authority to notify schools and notify the school to notify the health authority if there a communicable disease within the school.

# Cause of illness in schools

- In pre-COVID-19 the most frequent cause of mass illness at a school was norovirus. Here is how a hypothetical case would be investigated:
  - A student vomits somewhere in the school
  - An attempt is made to clean it up
  - Three to four days later, a number of students and staff suffer the same illness.
  - The Nurse or FASA reports it to their supervisors who report it to the health district who conducts an investigation.
  - The investigation evaluates how the emetic event was addressed and provides guidance on how to mitigate future events.
  - The school will be deep cleaned and disinfected with approved products focusing on high touch areas.



# How is norovirus prevented

- During routine inspections, environmental health staff interview the custodial and health office staff to determine how they address episodes where a student vomits
  - How is it being cleaned up
  - Is adequate PPE being used
  - Are adequate disinfectants being used (special disinfectants may need to be used)
  - Are things being disposed of properly
  - Are the instruments used in cleaning being properly cleaned and disinfected after use.
- If it is determined that the protocol being described does not adequately remove the virus and prevent further exposures, corrective instructions are given.

# What about COVID-19

- What we know:
  - COVID-19 is a respiratory disease
  - There are over 400 disinfectants that can remove the virus from a surface and have varying contact times from 15 seconds to 15 minutes (May 12, 2020)
  - There is no vaccine or treatment for the disease as of today
  - Social distancing appears to slow the spread of the disease.
  - Wearing of face coverings appears to slow the spread of the disease

# What we can do

- Things change fast!!! Stay up to date on the information.
- When schools re-open, procedures will need be in place to address the following:
  - What will be used to disinfect high touch surfaces?
  - How will buses be cleaned and disinfected?
  - How will social distancing be maintained on buses?
  - How will students be identified with COVID-19 symptoms and then sent home?
  - How will extracurricular activities take place?
  - How will social distancing be maintained in classrooms, during meals?

# What can we do

- What will happen after students with COVID-19 symptoms are sent home?
  - Immediate cleaning of area where student was prior to being identified?
  - Specialized cleaning of surfaces overnight?
  - Will parents of other students be notified of child who was ill?
- What will happen if a student or staff member is positive?
  - CDC recommends that the school be closed for two to five days
  - School is deep cleaned.
- <https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/guidance-for-schools-h.pdf>

# Overview: Salt Lake City School District

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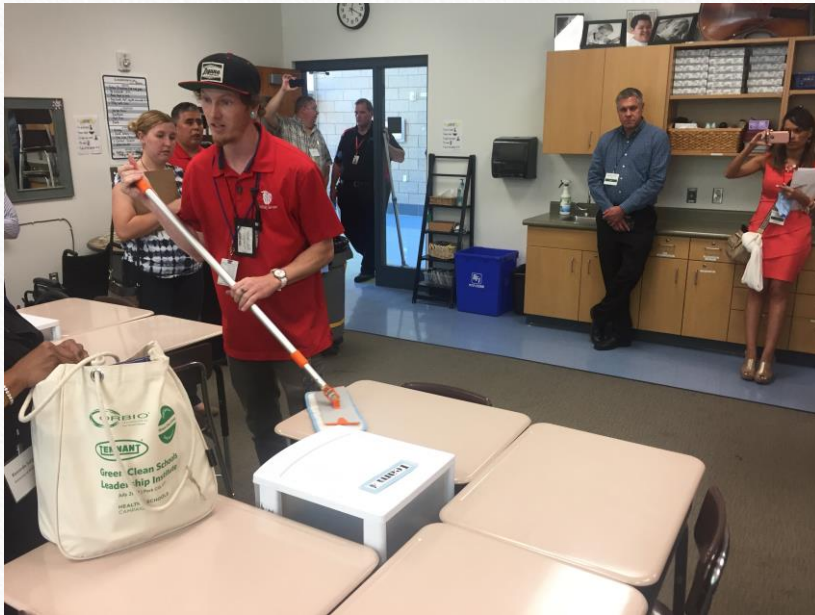
- **Students**  
24,000 students
- **Staff**  
4,200- educators, administrators, support personnel
- **Facilities**  
36 schools - 3,800,000 Ft<sup>2</sup>
- **Custodial Budget**  
\$5,700,000





# Being proactive

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# Personal Protective Equipment

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- Gloves, Mask and Eye Protection





# Equipment (hand held)

- Equipment: Electrostatic sprayer, Pump up sprayer, Spray Bottle, and MicroFiber Rags.



# Equipment (portable)

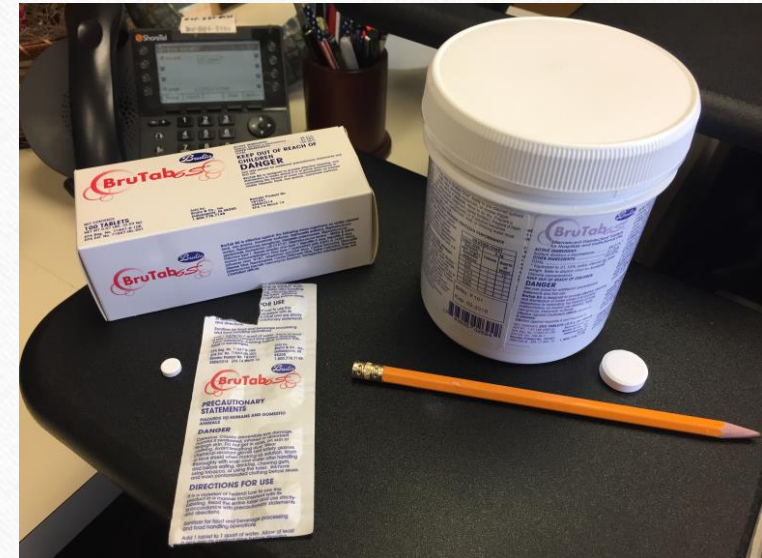
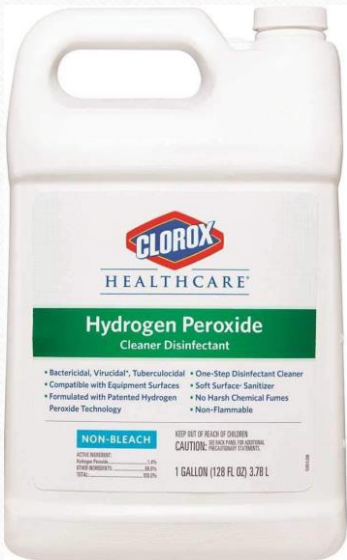
- Equipment: Micro Fiber pole mop, Aqueous Ozone machine (restroom caddy) and Carpet Extractors.



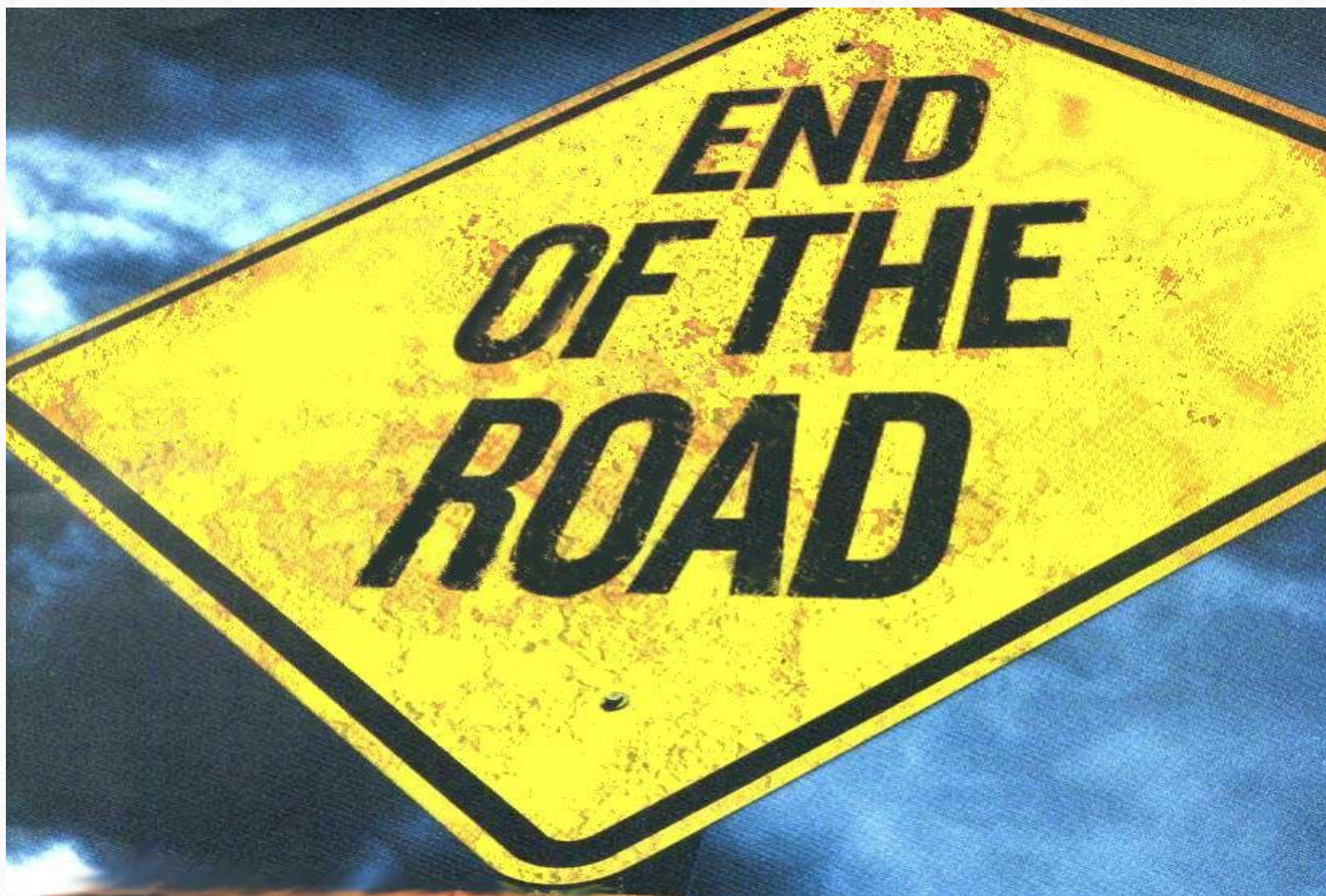


# Chemical

- Chemicals: Hydrogen-peroxide products, On site generated water, Effervescent tablets.







# Bill Blumenthal

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**Facilities Supervisor for Douglas County School District**





# Professional Experience

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- **22 years experience in the cleaning industry**
- **ISSA (CMIS) Certified**
- **DCSD and Process Cleaning for Health**



# COVID-19 Response for DCSD

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- **Reviewing inventory of critical PPE and purchasing.**

**Preparing for the next school year**



# Keeping Track

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**Sign in Sign out policy**

**Single point of entry**

**Flexibility**



# Moving Forward

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**Cleaning  
Technologies**



**DCSD to  
reopen  
in August**

**Precautions  
we  
are taking**

# PANEL DISCUSSION

Question & Answers with moderator to  
kick off discussion.

Send in your questions through the chat  
function.



# DISINFECTION



# Buses and Transportation of Students







# INDOOR AIR QUALITY

- Increased outdoor air ventilation / eliminate recirculation?
- EPA -Indoor Air Quality App
- Ventilation / Duct cleaning and tools



# PARTICIPANT QUESTIONS

# CLOSING

- Resources
- Ongoing Conversation
- Survey
- Additional questions for our experts or BEP



# THANK YOU!



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