Environmental Health & Infection Control in Schools
The Project

Contracted with the VDH to assist schools through the following activities to prevent harmful chemical exposures and address the causes and management of asthma.

- Conduct environmental assessments
- Promote plans & policies to reduce environmental impacts
- Increase knowledge to reduce Covid-19 transmission
- Promote best practices for safe cleaning, sanitizing & disinfecting
Trainings & Technical Assistance

• Backgrounds:
  • 30+ years experience in K-12 & childcare
  • Administered VOSHA programs
  • Civil Service Haz-Mat/Environmental Compliance
• Pioneered Cleaning for Health Program throughout the NE
• Worked with:
  • 150+ VT K-12 schools
  • Hospitals
  • Colleges & universities
  • Elder Care
  • Childcare
Vermont’s 2012 Act 68 requires cleaning products* provided or sold to K-12 schools be 3rd-party-certified as safer. Training by vendors mandated.

Available through the state contracts with the Department of Buildings & General Services or directly from vendors

Third-party certifiers:
- EPA Safer Choice
- Green Seal
- UL ECOLOGO®

* General purpose cleaners, bathroom cleaners, glass cleaners, carpet cleaners, floor care products, air fresheners, & hand soaps.
Vermont Trends 2022

<table>
<thead>
<tr>
<th></th>
<th>Conventional Air Freshener</th>
<th>3PC Air Freshener</th>
<th>Conventional All Purp Cleaner</th>
<th>3PC All Purp Cleaner</th>
<th>Conventional Glass Clean</th>
<th>3PC Glass Cleaner</th>
<th>Conventional Bath Room Cleaner</th>
<th>3PC Bath Room Cleaner</th>
<th>Conventional Carpet Cleaner</th>
<th>3PC Carpet Cleaner</th>
<th>Conventional Floor Care</th>
<th>3PC Floor Care</th>
<th>Conventional Hand Soap</th>
<th>3PC Hand Soap</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>19</td>
<td>2</td>
<td>13</td>
<td>47</td>
<td>21</td>
<td>33</td>
<td>36</td>
<td>38</td>
<td>24</td>
<td>16</td>
<td>39</td>
<td>38</td>
<td>17</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>36.5%</td>
<td>3.8%</td>
<td>25.0%</td>
<td>90.4%</td>
<td>40.4%</td>
<td>63.5%</td>
<td>69.2%</td>
<td>73.1%</td>
<td>46.2%</td>
<td>30.8%</td>
<td>75.0%</td>
<td>73.1%</td>
<td>32.7%</td>
<td>80.8%</td>
</tr>
</tbody>
</table>

**Disinfectants Found in VT K-12 2022**

- Quats: 88.5%
- Bleach: 9.6%
- 2-Phenyl-Phenol: 5.8%
- 3rd Party Certified: 44.2%
Vermont Resources

Vermont’s Envision Program provides tools and supports to improve the environmental health in K-12 schools often at little or no cost.

ENVISION PROGRAM: PROMOTING HEALTHY SCHOOL ENVIRONMENTS

Poor indoor air quality in schools has been linked to decreased student and teacher performance and increased absenteeism. Poor indoor air quality can also result in acute symptoms such as eye, nose and throat irritation, headache, nausea, lethargy and chronic conditions—such as asthma and allergies. The Envision Program – Promoting Healthy School Environments was created by the Legislature in 2000 as part of the School Environmental Health Act (Act 125) to address indoor air quality issues by providing model environmental health management plans, policies and guidance to schools.

The School Environmental Health Act 125 was passed into law with goals to improve school indoor air quality, reduce hazardous exposures, and help schools earn the Envision Certificate of Achievement.

› Learn more about Act 125

From unblocking air vents to limiting the use of disinfecting wipes, you can take simple steps to make your school healthier. Check out the video below and learn how to inspect your school building to identify potential environmental health issues. Then scroll down to find important resources about the Envision Program and how to address indoor air quality and environmental health in your school.
SARS-CoV-2, the virus that causes COVID-19, is primarily transmitted via airborne droplets and aerosols.

The risk of getting COVID-19 from surfaces is about 1 in 10,000.

Cleaning surfaces, including high touch surfaces, using soap or detergent, instead of disinfecting, is enough to reduce risk in most situations. ~CDC
Disinfection is recommended in indoor settings where there has been a suspected or confirmed case of COVID-19 within the last 24 hours.

Cleaning and disinfection products (including wipes) should not be used by children or near children. Disinfectants should only be used in accordance with the label, including contact time, rinsing, and room occupation.
Building ventilation is the most effective way to remove SARS-CoV-2 particles from the air.

- Filtration
  - MERV
  - Filter change schedule
- Air changes per hour
Ventilation

Portable Air Cleaners with HEPA filters can be 99% effective in removing viruses & asthma triggers. Avoid those that emit ozone.

• California Air Resources Board approved machines
• Air cleaners certified by the Association of Home Appliance Manufacturers.
• Harvard – CU Portable Air Cleaner Calculator

Look for an AHAM certification stamp on the air cleaner, check the Clean Air Delivery Rate (CADR) and the room size the unit can filter.
Essential to infection control: uses water, detergent and abrasion.

- Removes most germs & conditions they need to survive (e.g. dirt, moisture).
- Helps break down the outer lipid/fat shell of viruses like SARS-CoV-2.
- Prepares the surface for disinfecting.
For use on food contact surfaces:

- Counters, tables/desks used for eating, dishes, cooking utensils
- COVID-19 is caused by a virus, and sanitizers only work on bacteria.
- Some products are approved to be both a sanitizer and disinfectant at different concentrations and contact times.
Registered pesticides designed to kill organisms

- Use on hard nonporous surfaces such as door handles, tables, and other high-touch areas. Requires cleaning first and possibly rinsing surface after disinfecting!

- Choose no-rinse disinfectants with short contact times and safer ingredients.
Ingredients in common cleaning, sanitizing & disinfecting products are linked to:

- Asthma & asthma episodes
- Brain, nervous system, reproductive organ, kidney, & liver damage
- Eye irritation & headaches
- Breathing problems & illnesses
- Hormone disruption or mimicking
- Cancer
A 2022 study of 650 SDS’s found:

- 30% included inaccurate hazard warnings, including cancer risks
- In products containing carcinogens, 15% failed to warn of cancer risks.
- In products containing reproductive toxins, 21% failed to warn of risks to fertility or fetal development.

https://www.bluegreenalliance.org/site/obstructing-the-right-to-know-report/
Exposure

Children exposed to the same dose of environmental or chemical toxins as adults are harmed more severely.
Many cleaning, sanitizing, and disinfecting products can irritate the lungs, and trigger or even cause new onset asthma.

Asthma is a chronic inflammatory disorder of the airways in the lungs that results in:

- Wheezing
- Coughing
- Chest tightness
- Trouble breathing
Asthmagens & Asthma Triggers

Benzalkonium Chloride
Bisphenol A (BPA)
Chlorine Bleach
Ethanolamines
- monoethanolamine
- diethanolamine
- triethanolamine

Fragrance Ingredients: volatile organic compounds, aerosols, etc.

Parabens and Phthalates
Quaternary ammonium compounds (QUATS):
- alkyl dimethyl benzyl ammonium chloride
- benzalkonium chloride
- didecyl dimethyl benzyl ammonium
- & others not listed here
• EDCs interrupt or imitate natural hormonal messages.

• Hormones and EDCs work in tiny doses, parts per billion.

• EDCs may cause:
  - Reduced fertility in women & men
  - Early puberty in girls
  - Increases in cancers of the breast, ovaries, and prostate

Minute doses of EDC’s can harm people in different ways, essentially tricking the body into responding to chemicals as hormones during key stages of development.
Anybody from the school community can nominate a school for recognition.

Categories include policy, practices and products. They fall under the scope of facilities staff, administrators or school nurses.

To learn more, visit:

Asthma-Friendly Schools Recognition Application
Disinfectants such as bleach and those containing...Quats should not be used when children or adolescents are present, because these are known respiratory irritants.

Only products labeled as safe for humans and the environment... containing active ingredients such as hydrogen peroxide, ethanol, citric acid, should be selected from List N, because they are less toxic, are not strong respiratory irritants or asthma triggers, and have no known carcinogenic, reproductive, or developmental effects.

Susan Kaplan, J.D., Research Assistant Professor, UIC School of Public Health

## Disinfectant Details

<table>
<thead>
<tr>
<th>Disinfectant</th>
<th>AVOID</th>
<th>USE WITH CAUTION</th>
<th>PREFERRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine</td>
<td>Failed</td>
<td>Not Evaluated</td>
<td>Passed</td>
</tr>
<tr>
<td>Alcohol</td>
<td>Passed</td>
<td>Passed</td>
<td>Passed</td>
</tr>
<tr>
<td>Alcohol</td>
<td>Passed</td>
<td>Passed</td>
<td>Passed</td>
</tr>
<tr>
<td>Ethanol</td>
<td>Passed</td>
<td>Passed</td>
<td>Passed</td>
</tr>
<tr>
<td>Citric Acid</td>
<td>Passed</td>
<td>Passed</td>
<td>Passed</td>
</tr>
</tbody>
</table>

### Status of DIE review

**Failed**

<table>
<thead>
<tr>
<th>Disinfectant</th>
<th>Chlorine</th>
<th>Alcohol</th>
<th>Ethanol</th>
<th>Citric Acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status of DIE review* (see below)</td>
<td>Failed</td>
<td>Passed</td>
<td>Passed</td>
<td>Passed</td>
</tr>
</tbody>
</table>

### Contact time

<table>
<thead>
<tr>
<th>Disinfectant</th>
<th>Chlorine</th>
<th>Alcohol</th>
<th>Ethanol</th>
<th>Citric Acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 seconds</td>
<td>30 seconds to 10 minutes</td>
<td>10 minutes</td>
<td>10 minutes</td>
<td>30 seconds to 10 minutes</td>
</tr>
<tr>
<td>3 seconds - 10 minutes</td>
<td>30 seconds to 10 minutes</td>
<td>10 minutes</td>
<td>10 minutes</td>
<td>30 seconds to 10 minutes</td>
</tr>
<tr>
<td>10 minutes</td>
<td>10 minutes</td>
<td>10 minutes</td>
<td>10 minutes</td>
<td>10 minutes</td>
</tr>
</tbody>
</table>

### General & COVID-19

<table>
<thead>
<tr>
<th>Disinfectant</th>
<th>Chlorine</th>
<th>Alcohol</th>
<th>Ethanol</th>
<th>Citric Acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 seconds</td>
<td>30 seconds to 10 minutes</td>
<td>10 minutes</td>
<td>10 minutes</td>
<td>30 seconds to 10 minutes</td>
</tr>
<tr>
<td>3 seconds - 10 minutes</td>
<td>30 seconds to 10 minutes</td>
<td>10 minutes</td>
<td>10 minutes</td>
<td>30 seconds to 10 minutes</td>
</tr>
<tr>
<td>10 minutes</td>
<td>10 minutes</td>
<td>10 minutes</td>
<td>10 minutes</td>
<td>10 minutes</td>
</tr>
</tbody>
</table>

### Health Hazards

<table>
<thead>
<tr>
<th>Disinfectant</th>
<th>Chlorine</th>
<th>Alcohol</th>
<th>Ethanol</th>
<th>Citric Acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixing with ammonia, Quats, or other acids creates poisonous gas</td>
<td>Contact dermatitis &amp; nasal irritation</td>
<td>Respiratory sensitization, linked to asthma and endocrine disruption</td>
<td>Skin sensitization</td>
<td>Asthmaen</td>
</tr>
<tr>
<td>Corrosive to eyes and skin</td>
<td>Respiratory irritant &amp; asthmaen</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Effectiveness

Always read product label for contact time specifics based on concentration and targeted microbes.

<table>
<thead>
<tr>
<th>Disinfectant</th>
<th>Chlorine</th>
<th>Alcohol</th>
<th>Ethanol</th>
<th>Citric Acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always read product label for specifics as concentrations and corresponding efficacies vary by microbe. For Covid-19 information, check EPA’s List N.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Exposure controls

<table>
<thead>
<tr>
<th>Disinfectant</th>
<th>Chlorine</th>
<th>Alcohol</th>
<th>Ethanol</th>
<th>Citric Acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPE &amp; increased ventilation</td>
<td>PPE &amp; increased ventilation</td>
<td>No special requirements</td>
<td>Concentrate requires eye protection, gloves &amp; respirator</td>
<td>PPE and increased ventilation</td>
</tr>
</tbody>
</table>

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**Infection Control Handbook for Schools**

Page 22
Identify Safer Disinfectants

EPA’s Design for the Environment Disinfectant Program:

• Certifies that products meet their health & safety standards

• Lists only safer active ingredients:
  - Hydrogen Peroxide
  - Citric Acid
  - Chitosan
  - Ethanol
  - L-lactic acid
  - Isopropanol
  - Peroxyacetic acid
  - Sodium Bisulfate
Identify Safer Disinfectants

Look for the following:

• EPA registration number = effective
• 0 Health rating on the Hazardous Materials Identification System (HMIS)
• Signal words **CAUTION** or **WARNING** instead of **DANGER** on label
• Short contact time
• No rinse requirement
# Identify Safer Disinfectants

<table>
<thead>
<tr>
<th>PRODUCT &amp; Description</th>
<th>EPA Reg #</th>
<th>MANUFACTURER</th>
<th>CONTACT TIME</th>
<th>VENDOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maxim Facility Plus</td>
<td>45745-12</td>
<td>Midlab</td>
<td>1 min/30 sec-COVID</td>
<td>Swish</td>
</tr>
<tr>
<td>Commercial Solutions Hydrogen Peroxide Disinfecting Cleaner</td>
<td>67619-24</td>
<td>Clorox</td>
<td>1 min/30 sec-COVID</td>
<td>WB Mason</td>
</tr>
<tr>
<td>Oxivir TB</td>
<td>70627-56</td>
<td>Diversey</td>
<td>1 min</td>
<td>WB Mason</td>
</tr>
<tr>
<td>Oxivir Wipes</td>
<td>70627-60</td>
<td>Diversey</td>
<td>1 min</td>
<td>WB Mason</td>
</tr>
<tr>
<td>Oxypor 365 Disinfectant Cleaner</td>
<td>6836-385</td>
<td>Triple SSS</td>
<td>3 min/1 min-COVID</td>
<td>Empire</td>
</tr>
<tr>
<td>Alpha HP Multi-Surface Disinfectant Cleaner</td>
<td>70627-62</td>
<td>Diversey</td>
<td>5 min</td>
<td>WB Mason</td>
</tr>
<tr>
<td>Oxivir Five 16 Concentrate (aka OxyTeam)</td>
<td>70627-58</td>
<td>Diversey</td>
<td>5 min/1 min-COVID</td>
<td>WB Mason</td>
</tr>
<tr>
<td>GE Fight Bac</td>
<td>34810-35</td>
<td>Betco</td>
<td>5 min/1 min-COVID</td>
<td>WB Mason</td>
</tr>
<tr>
<td>GE Fight Bac Wipes</td>
<td>34810-36</td>
<td>Betco</td>
<td>5 min/1 min-COVID</td>
<td>WB Mason</td>
</tr>
<tr>
<td>Professional Surface Disinfecting Wipes</td>
<td>84150-1</td>
<td>Purell</td>
<td>5 min/1 min-COVID</td>
<td>WB Mason Hillyard</td>
</tr>
<tr>
<td>Professional Surface Disinfectant</td>
<td>84368-1</td>
<td>Purell</td>
<td>5 min/1 min-COVID</td>
<td>Hillyard</td>
</tr>
</tbody>
</table>
Choosing Safer Sanitizers and Disinfectants

HMIS

NFPA
EPA created **List N** a searchable database that provides disinfectant formulations effective against the SARS-CoV-2 virus.

List N prioritizes disinfection and many listed products are hazardous to human health. Search for products using the active ingredients certified as safer by DfE.

[www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2](http://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2)
### List N: Disinfectants for Use Against SARS-CoV-2 (COVID-19)

**Date Accessed:** 03/12/2021

<table>
<thead>
<tr>
<th>EPA Registration Number</th>
<th>Active Ingredient(s)</th>
<th>Product Name</th>
<th>Company</th>
<th>Contact Time (in minutes)</th>
<th>Formulation Type</th>
<th>Surface Types</th>
<th>Use Sites</th>
<th>Why is this product on List N?</th>
<th>To kill SARS-CoV-2 (COVID-19), follow disinfection directions for the following pathogen(s)</th>
<th>Date Added to List N</th>
</tr>
</thead>
<tbody>
<tr>
<td>84368-1</td>
<td>Ethanol (Ethyl alcohol)</td>
<td>Urthpro</td>
<td>Urthtech LLC</td>
<td>0.5 (30 seconds)</td>
<td>Ready-to-use</td>
<td>Hard Nonporous (HN); Food Contact No Rinse (FCNR)</td>
<td>Healthcare; Institutional; Residential</td>
<td>Tested against SARS-CoV-2 (COVID-19); Emerging viral pathogen claim</td>
<td>SARS-CoV-2</td>
<td>03/02/2021</td>
</tr>
<tr>
<td>84130-3</td>
<td>Ethanol (Ethyl alcohol)</td>
<td>Salsa</td>
<td>GOJO Industries Inc</td>
<td>1</td>
<td>Ready-to-use</td>
<td>Hard Nonporous (HN); Food Contact No Rinse (FCNR)</td>
<td>Healthcare; Institutional; Residential</td>
<td>Kills a harder-to-kill pathogen than SARS-CoV-2 (COVID-19); Emerging viral pathogen claim</td>
<td>Hepatitis A virus</td>
<td>02/11/2021</td>
</tr>
<tr>
<td>84130-4</td>
<td>Ethanol (Ethyl alcohol)</td>
<td>Charleston</td>
<td>GOJO Industries Inc</td>
<td>0.5 (30 seconds)</td>
<td>Ready-to-use</td>
<td>Hard Nonporous (HN); Food Contact No Rinse (FCNR)</td>
<td>Healthcare; Institutional</td>
<td>Kills a harder-to-kill pathogen than SARS-CoV-2 (COVID-19); Emerging viral pathogen claim</td>
<td>Hepatitis A virus</td>
<td>08/13/2020</td>
</tr>
<tr>
<td>84150-1</td>
<td>Ethanol (Ethyl alcohol)</td>
<td>PURELL Professional Surface Disinfectant Wipes</td>
<td>GOJO Industries Inc</td>
<td>5</td>
<td>Wipe</td>
<td>Hard Nonporous (HN); Food Contact No Rinse (FCNR)</td>
<td>Healthcare; Institutional; Residential</td>
<td>Kills a harder-to-kill pathogen than SARS-CoV-2 (COVID-19); Emerging viral pathogen claim</td>
<td>Norovirus</td>
<td>03/03/2020</td>
</tr>
</tbody>
</table>

Choosing Safer Sanitizers

Look for the following:

- Approval for food contact surfaces
- No rinse required
- 0 health rating on the HMIS
- Signal words **CAUTION** or **WARNING** instead of **DANGER** on label
- Short contact time
- Design for the Environment Logo
- Free of fragrance & dyes
Choosing Safer Cleaning Products

Look for the Following:

- Third-party certification
- Signal word **WARNING** instead of **DANGER** on label
- Non-aerosol
- Free of fragrances & dyes
- All ingredients listed on the label or website
Third-party certifiers

Look for the logos:

- Green Seal
- Safer Choice (EPA)
- UL ECOLOGO®
More effective than cotton or paper towels

• Removes dirt, oils, & grease, as well as germs (up to 99%) from surfaces
• Requires less detergent to be effective
• Washable 500 - 1,000 times
• Available through rental agencies
Electrostatic Sprayers/Mister Foggers

Sold early in the pandemic, these disinfection application devices raise concerns in the public health community about:

- Lung Exposure:
  - Droplet size
  - PPE requirement compliance/respirators
- Effectiveness – contact time
- Disinfectant overuse
Note: Always read the equipment manual.

- Health WARNING from one manufacturer:
  - 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.
Electrostatic Sprayers Safety Settings

What to know about the spray to reduce product in the air:

- Distance sprayed varies widely, from 3 feet to over 7 feet depending on unit.
- Droplet size (40-100 microns) affects how quickly and long the surface is wetted.
EPA/CDC have concerns with mister/foggers:

• Health risks – the fine mist stays in air longer and poses an inhalation hazard.

• Efficacy – the mist may not stay wet long enough for required contact time.

**Recommend against:** CDC, VT & other states
# Should You Use These to Disinfect?

<table>
<thead>
<tr>
<th>Method</th>
<th>Recommendation</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EPA List N Products</strong></td>
<td><strong>YES</strong></td>
<td>Follow label directions for approved</td>
</tr>
<tr>
<td></td>
<td></td>
<td>application methods and required contact</td>
</tr>
<tr>
<td></td>
<td></td>
<td>times.</td>
</tr>
<tr>
<td><strong>Electrostatic Spraying</strong></td>
<td><strong>MORE INFO NEEDED</strong></td>
<td>EPA and CDC are reviewing safety and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>effectiveness.</td>
</tr>
<tr>
<td><strong>Ultraviolet, Ozone or Steam</strong></td>
<td><strong>MORE INFO NEEDED</strong></td>
<td>EPA and CDC are reviewing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>effectiveness.</td>
</tr>
<tr>
<td><strong>Fogging</strong></td>
<td><strong>NO</strong></td>
<td>Increases hazardous chemical exposure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>and provides no added benefit.</td>
</tr>
<tr>
<td><strong>Ultrasonic Waves or LED blue light</strong></td>
<td><strong>NO</strong></td>
<td>There is no data to suggest these are</td>
</tr>
<tr>
<td></td>
<td></td>
<td>effective against COVID-19.</td>
</tr>
</tbody>
</table>

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Developed by Lynn Rose
Aqueous Ozone has been in use in several VT schools.

- APC
- Sanitizer
- Floor Machine

USDA, FDA
UV-C light is being used to disinfect hospital OR’s and other spaces. Some VT schools have invested in these systems with successful results.

- Plug-in
- Stand alone
- Safety features
Funded by VDH

- Policies
- Ventilation
- Flooring/Carpeting
- COVID-19 precautions
- Integrated Pest Management
- Cleaning/Disinfecting
  - Best practices
  - Products (inventory)
  - Disposal assistance
- Technology
  - Microfiber
  - Dilution stations
  - Electrostatic sprayers
  - Misters/foggers

### Environmental Health & Safety Policies and Practices

<table>
<thead>
<tr>
<th>Environmental Health &amp; Safety Policies and Practices</th>
<th>Y</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrolled in Vermont’s Envision Program.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have a Health and Safety Committee. Meetings are regularly scheduled.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazard Communications Program in place. It is current. SDS are kept for discontinued products for 30 years.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>There have been recent IAQ complaints.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom teachers are supplied with cleaning products. Teachers are prohibited from bringing cleaning products.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated Pest Management policy is in place.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Exterior

- Exterior walls and intakes are clear.
- Ground level intakes & operable windows are far from pollutants (dumpsters, loading docks, bus-idling areas).
- No idling policy is enforced & signs are posted.

### Ventilation

- HVAC system maintenance contracted out.
- It is fully functional.
- It was balanced & tested post room/system modification.
- Name/Type of System
- Hours of operation
- Filter change schedule
- MERV rating
- Has Efficiency VT assisted with ventilation changes?
Resources

Partners:

• VSBIT
• AoE- School Facility Improvement Project
• VDH Division of Health Promotion and Disease Prevention: Asthma
• Envision: VDH Division of Environmental Health
Thank You for Participating

Informed Green Solutions, Inc.
www.informedgreensolutions.org

Westinghouse@informedgreensolutions.org

charenfegard@gmail.com