This Tech Talk is based on current information available as of January 28, 2020 and is specific to the regulatory framework and guidance for disinfectants for non-critical, hard, non-porous surfaces (as defined by U.S. EPA) in the United States, which may vary from requirements in other countries.

IMPORTANT NOTE: For any country, including the U.S., local regulations should always be consulted before selecting and utilizing a disinfectant cleaner.

What is the Novel Coronavirus (2019 nCoV)?

The Novel Coronavirus (2019 nCoV) is an enveloped virus that originated in the Wuhan region of China. The Coronavirus family of viruses have been linked to illnesses in both animals and humans. Novel Coronavirus (2019 nCoV) is in the same family as the viruses that cause Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS). Initially it was suspected that the Novel Coronavirus (2019 nCoV) was linked to a human-to-animal exposure, but additional cases have been identified as transmitted from human-to-human contact in people who have not been exposed directly to animals.

Additional Information is available at https://www.cdc.gov/coronavirus/2019-nCoV/summary.html

What are enveloped and non-enveloped Viruses?

Viruses can be classified a number of ways and one is the presence or absence of an outer envelope. In enveloped viruses, the interior is surrounded by a lipid bilayer studded with an outer layer of virus envelope glycoproteins. In general, enveloped viruses are more susceptible to disinfectants than non-enveloped viruses. Examples of enveloped viruses include influenza viruses, Hepatitis B Virus (HBV), and Human Immunodeficiency Virus (HIV). Examples of non-enveloped viruses include Adenovirus, Parvovirus, Rotavirus, Rhinovirus, Poliovirus, Norovirus and Coxsackie Virus.

How does it spread?

Coronaviruses are common in many species of animals such as camels, cattle, cats, and bats. It is rare, but animal coronaviruses can infect people and then spread from person-to-person such as MERS and SARS. When person to person spreads take place (instances related to MERS and SARS) it is understood that this transmission took place via exposure to respiratory mucous generated from a cough, sneeze, or direct transmission of saliva. This is similar to how influenza and other respiratory illnesses spread. It is important to note that the susceptibility of viruses spreading via a population can vary based on many factors which can include the type of virus and/or the size/health of the population. The risk from outbreaks depends on the characteristics of the pathogen, including its potential to spread, illness effects on individuals and the population, and measures that can be taken to help control the impact of the pathogen, from disinfectants to vaccines. Unfortunately, the details regarding the Coronavirus (2019-nCoV) are developing and ongoing research from key entities, such as the Center for Disease Control (CDC) and the US Environmental Protection Agency (US EPA) is underway to further understand how the virus spreads. This investigation is ongoing and new information will continually be made available to the general public. It is recommended to routinely check the CDC 2019 Coronavirus webpage for up-to-date information. https://www.cdc.gov/coronavirus/2019-nCoV/summary.html

What are common symptoms?

Current symptoms associated with Novel Coronavirus (2019 nCoV) are similar to those seen and caused by influenza and other respiratory illnesses. These symptoms include coughing, runny nose, sore throat, wheezing, sneezing, fever, and trouble breathing. In serious cases, the Coronavirus (2019 nCoV) can cause severe acute respiratory syndrome, pneumonia, bronchitis, and even death.
What can we do to prevent and treat?

Currently, the Novel Coronavirus (2019 nCoV) is so fresh that there are no vaccines known to prevent it at this time. The CDC recommends the following preventative actions to help prevent contracting the virus as well as reduce its spread within our communities.

- Wash hands with soap and water. Utilize hand sanitizers where water and soap are not present.
- Avoid touching eyes, nose, or mouth with unwashed hands
- Avoid contact with individuals that are ill
- Cover your cough or sneeze with a tissue
- Clean and disinfectant high touch surfaces with US EPA registered disinfectants

People feeling ill or suspected to be infected with the Coronavirus (2019-nCoV) should contact their local healthcare provider as soon as possible.


What non-critical surface disinfectant guidance is there?

Due to the novel Coronavirus (2019 nCoV) being a newly emerging pathogen there is no US EPA registered disinfectant currently available on the market, as of January 28, 2020, with the Coronavirus (2019 nCoV) efficacy claim specifically listed on their container label. When emerging pathogens come to light, disinfectant manufacturers rely on the regulatory bodies such as the CDC and US EPA to provide guidance on specific disinfectants to use in times of urgent need. In 2016, the US EPA published a guideline and testing regime and in conjunction with the CDC will help to clarify when a manufacturer or user of a disinfectant can make claims regarding emerging viral pathogens that are not specifically listed on product labels. This is known as the “Emerging Pathogens Policy”

With respect to the Coronavirus (2019 nCoV) on January 22, 2020, Anita Pease, the Director of the US EPA Antimicrobial Division announced that the Coronavirus (2019 nCoV) has triggered the EPA Emerging Pathogen Policy. Due to the general public’s need for guidance on disinfectants to use in cases of outbreaks, this policy-initiated criteria for disinfectants to meet which allows for professional judgements on effectiveness of disinfectants with current registrations with similar, representative microorganism families based on their cell structures (ex. category 2a large enveloped viruses, category 2b large unenveloped viruses, and category 2c small unenveloped viruses) and the microorganisms vulnerability to types of disinfectant chemistries.

https://www.epa.gov/pesticide-registration/emerging-viral-pathogen-guidance-antimicrobial-pesticides
https://www.epa.gov/sites/production/files/2016-09/documents/emerging_viral_pathogen_program_guidance_final_8_19_16_001_0.pdf

Under this policy, a more timely response from the US EPA and CDC can be generated and existing US EPA registered disinfectants can immediately be used to help prevent the spread of emerging pathogens. In this case, it is still unknown how the novel Coronavirus (2019 nCoV) spreads. In a conservative approach, until the transmission of this virus is more understood, disinfectants that meet the US EPA’s Emerging Pathogen Policy for category 2c small unenveloped viruses are being given approval for use against the Novel Coronavirus (2019 nCoV).

In addition to the US EPA and CDC guidance, the World Health Organization (WHO) has released draft guidance in respect to principles of infection prevention and control strategies associated with a Coronavirus (nCoV). As a standard precautions for individuals or patients in suspected cases, the WHO advises wearing personal protective equipment (PPE) during the application of commonly used hospital-level disinfectants to help prevent potential transmission of the Coronavirus. 3M Personal Safety Division has also released a Tech Talk in response to the Coronavirus (2019 nCoV). See the links on the following page.
Which 3M Commercial Solutions Division disinfectant cleaners currently meet U.S. EPA’s Emerging Pathogen Policy?

The below chart shows a current list of 3M disinfectant cleaners that were identified as meeting the U.S. EPA’s Emerging Pathogen Policy. The products below can be used against the 2019 Novel Coronavirus (2019-nCoV), when used in accordance with the directions for use against the respective supporting viral claims on non-critical, hard, non-porous surfaces. Refer to the CDC website [https://www.cdc.gov/coronavirus/2019-ncov/index.html](https://www.cdc.gov/coronavirus/2019-ncov/index.html) for additional information.

The 3M disinfectant cleaners that meet the U.S. EPA’s Emerging Pathogen Policy and are recommended for use against Coronavirus (2019 nCoV) on non-critical, hard, non-porous surfaces are as follows:

<table>
<thead>
<tr>
<th>Product Name</th>
<th>US EPA Registration Number</th>
<th>Supporting Viral Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>3M™ Quat Disinfectant Cleaner Concentrate (5L, 5H, 5A)</td>
<td>6836-78-10350</td>
<td>Norovirus or Rotavirus</td>
</tr>
<tr>
<td>3M™ Neutral Quat Disinfectant Cleaner Concentrate (23L, 23H, 23A)</td>
<td>47371-129-10350</td>
<td>Rotavirus or Adenovirus Type 7</td>
</tr>
<tr>
<td>3M™ HB Quat Disinfectant Cleaner Concentrate (25L, 25H, 25A)</td>
<td>61178-5-10350</td>
<td>Rotavirus or Norovirus</td>
</tr>
<tr>
<td>3M™ Disinfectant Cleaner RCT Concentrate (40L, 40A)</td>
<td>6836-349-10350</td>
<td>Rotavirus</td>
</tr>
<tr>
<td>3M™ Disinfectant Cleaner RCT Concentrate</td>
<td>6836-349-10350</td>
<td>Rotavirus or Enterovirus D68 or Norovirus (1:128 dilution)</td>
</tr>
<tr>
<td>3M™ MBS Disinfectant Cleaner Fresh Scent Concentrate (41L, 41H, 41A)</td>
<td>6836-361-10350</td>
<td>Norovirus or Rotavirus</td>
</tr>
<tr>
<td>3M™ MBS Disinfectant Cleaner Concentrate (42L, 42H, 42A)</td>
<td>6836-361-10350</td>
<td>Norovirus or Rotavirus</td>
</tr>
<tr>
<td>3M™ C. diff Solution Tablets</td>
<td>71847-6-10350</td>
<td>Norovirus</td>
</tr>
</tbody>
</table>

Other 3M disinfectant cleaners could be added to this list when officially confirmed.