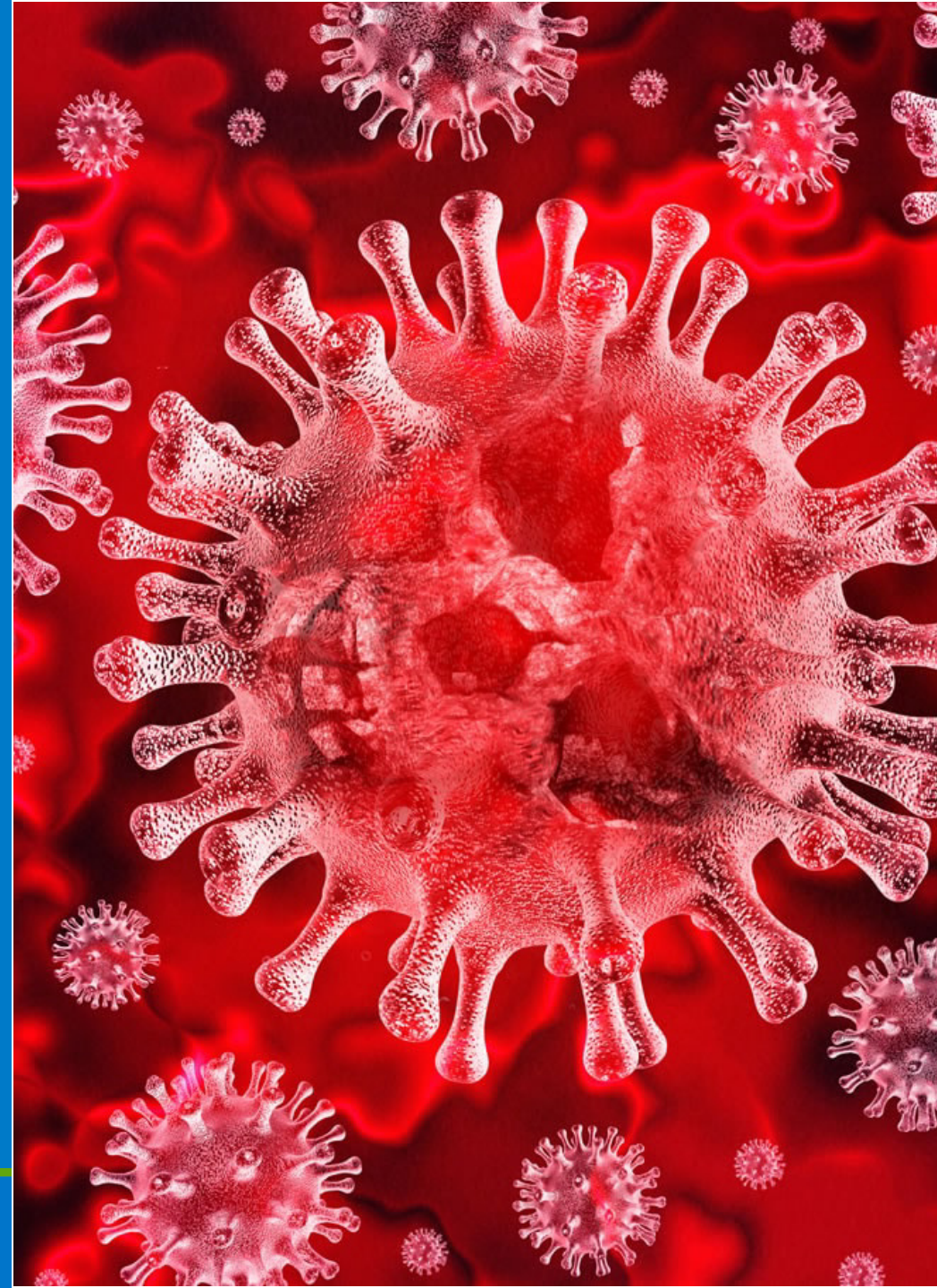


# NOVEL CORONAVIRUS COVID-19

INFECTION PREVENTION MEASURES  
FOR COMMERCIAL LAUNDRY



# DEPEND ON ECOLAB

This coronavirus is quickly and dramatically changing every day. And what we know about it continues to evolve. Our public health experts are committed to providing guidance and information to the most commonly asked questions around COVID-19.

Today, we provide guidance to YOUR customers on how to maintain cleanliness and employee protection in each of their areas such as Long-term Care, Acute Care, Hotels, Food Processing Plants, Food Service, and more

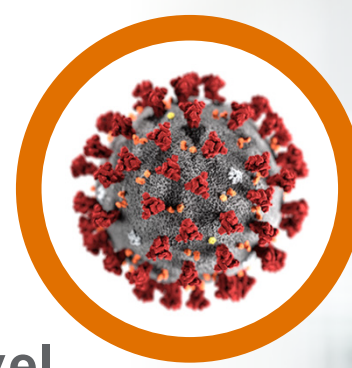
- Our customers are your customers
- We are uniquely positioned to understand your business and your customer's business
- Rely on Ecolab to provide the best recommendations during this pandemic

Visit the Ecolab website for the most up to date information on Coronavirus:  
<https://www.ecolab.com/pages/coronavirus>

A detailed 3D rendering of COVID-19 virus particles. The central particle is the largest and most prominent, showing its characteristic spherical shape with a textured surface and numerous spike-like protrusions (glycoprotein spikes) extending from its surface. It is surrounded by several smaller, similar particles of varying sizes and orientations. The background is a vibrant red, suggesting a cellular or tissue environment. A semi-transparent blue rectangular box is overlaid on the left side of the image, containing the text 'UNDERSTANDING COVID-19'.

**UNDERSTANDING  
COVID-19**

# WHAT WE KNOW ABOUT CORONAVIRUS

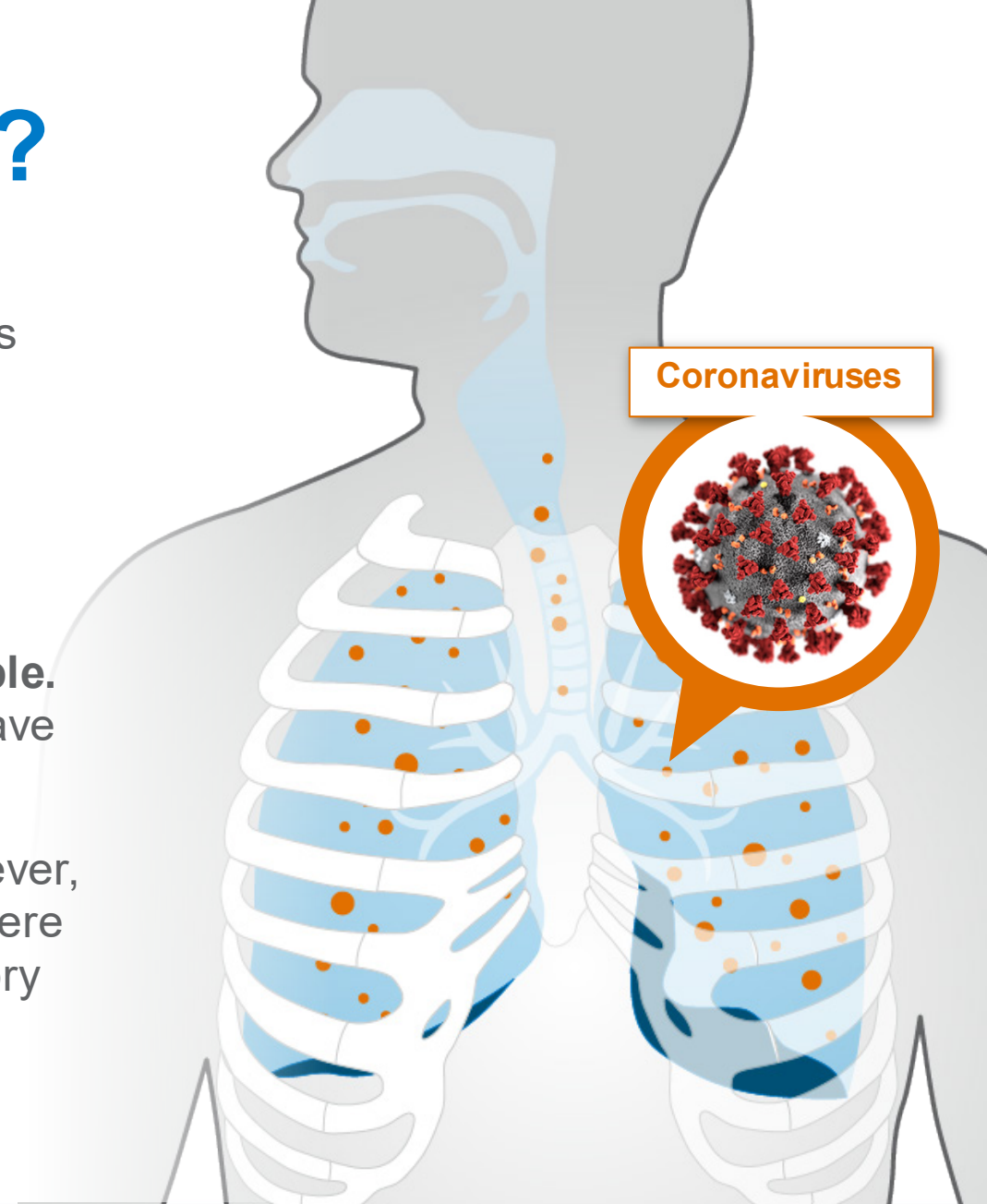


- Chinese public health authorities have **identified a novel coronavirus (COVID-19 Acute Respiratory Disease)** not previously seen
- The virus causes fever and respiratory symptoms
- To date, the virus has infected millions of people, with thousands of reported deaths
  - Access case counts here: [Global Map of Confirmed Cases](#)
- Public health authorities are actively investigating this outbreak and **the situation will evolve**



# WHAT IS A CORONAVIRUS?

- **Coronaviruses (CoV)** are a large family of viruses that cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV)
- **Novel coronavirus (nCoV)** is a new strain that has not been previously identified in humans
- **Coronaviruses are transmitted between animals and people.** Several known coronaviruses are circulating in animals that have not yet infected humans
- **Common signs of infection** include respiratory symptoms, fever, cough, shortness of breath and trouble breathing. In more severe cases, infection can cause pneumonia, severe acute respiratory syndrome, kidney failure and even death

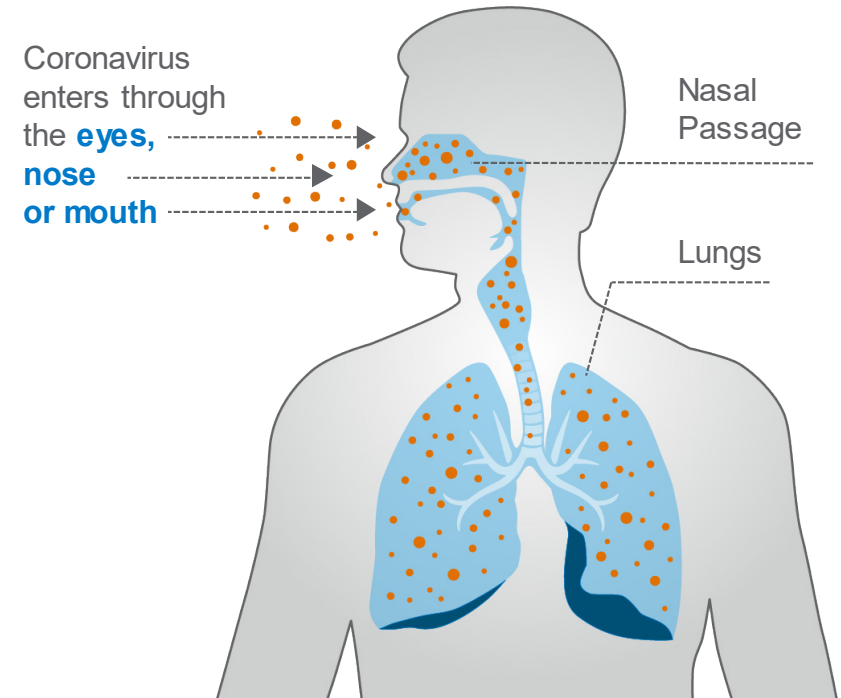


# HOW DOES CORONAVIRUS SPREAD?

It depends on the particular coronavirus

Human coronaviruses are rarely spread by fecal contamination **but may spread from an infected person to others through:**

- **The air** by coughing and sneezing
- **Close personal contact**, such as touching or shaking hands
- **Touching** an object or surface with the virus on it, then touching your mouth, nose or eyes before washing your hands



Transmission from person to person is occurring *to some extent* with 2019-nCoV acute respiratory disease. Surveillance continues.

# HOW LONG DOES CORONAVIRUS SURVIVE ON SURFACES?

- A study by the *Journal of Hospital Infection* stated coronavirus can live on various surfaces from 2 hours to 9 days
- A second study published in *medRxiv* stated the coronavirus can remain viable in the air for up to 3 hours, on copper for up to 4 hours, on cardboard up to 24 hours, and on plastic and stainless steel up to 2 to 3 days
- Temperature and concentration of the microorganism plays a role in its survival rate
- It is unknown how long coronavirus will live on soft surfaces like fabrics or textiles

# WE CAN TAKE STEPS TO HELP PROTECT PUBLIC HEALTH

Public health recommendations focus on **standard infection control practices, training and compliance**





# HOW TO PROTECT YOURSELF



There are currently no vaccines available to protect you against human coronavirus infection

You may be able to **reduce your risk** of infection by doing the following:

- 1 Wash your hands** often and correctly
  - The World Health Organization recommends performing hand hygiene with soap and water or alcohol-based hand rub if soap and water are not available
- 2 Avoid touching** your eyes, nose or mouth with unwashed hands
- 3 Avoid close contact** with people who are sick; **stay home** when you are sick
- 4 Cover your mouth and nose** with a tissue when you cough or sneeze, then throw the tissue in the trash and wash your hands
- 5 Clean and disinfect** objects and surfaces frequently



# HOW TO PROTECT OTHERS

If you have cold-like symptoms, you can **help protect others** by doing the following:



Washing your hands

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Wearing a mask

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Staying home while you are sick

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Avoiding close contact with others



Covering your mouth and nose with a tissue when you cough or sneeze, then throwing the tissue in the trash and washing your hands

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Seeing a doctor immediately

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Cleaning and disinfecting objects and surfaces

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COMMERCIAL  
LAUNDRY BEST  
PRACTICES

# KEY MESSAGE

The commercial laundry is uniquely positioned to control critical areas to **BREAK THE CHAIN OF INFECTION**

## BREAK CHAIN FROM 3 to 4

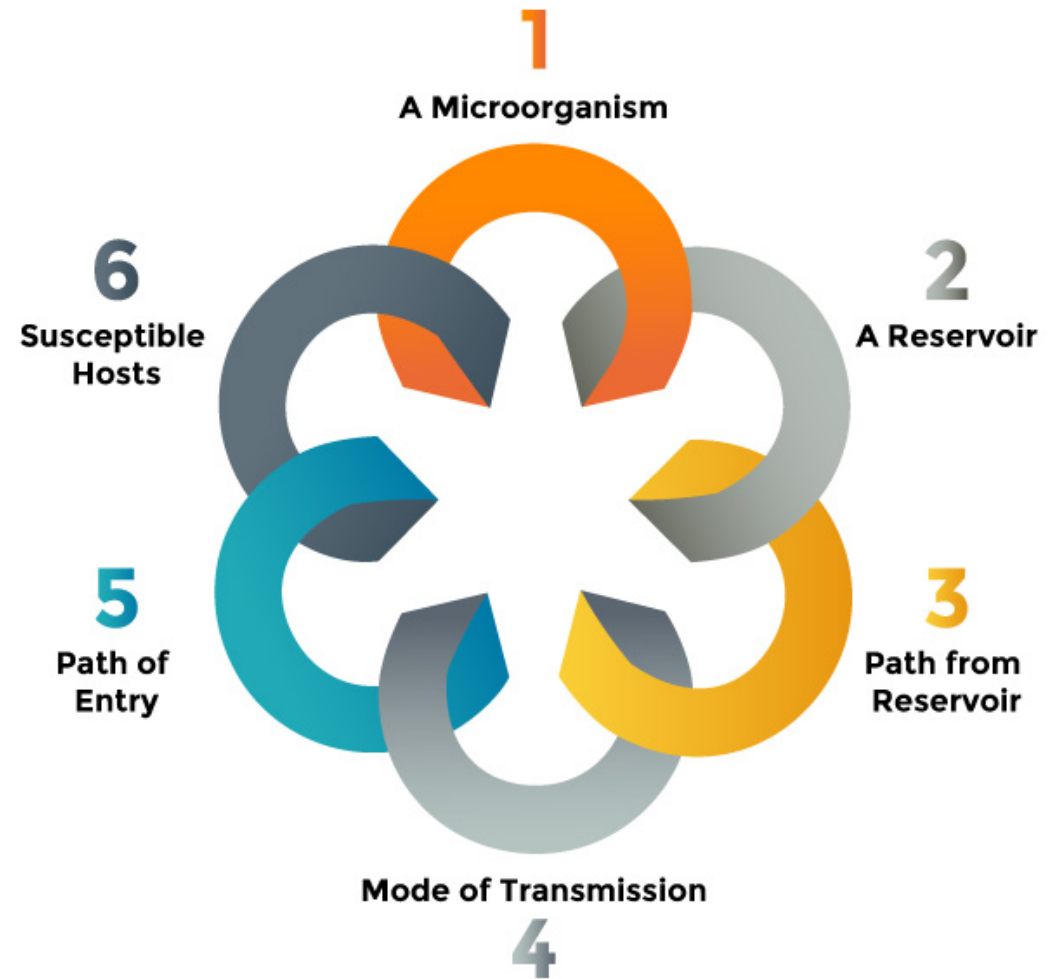
- Properly collect, bag, sort soiled linens; utilize universal precautions

## BREAK CHAIN FROM 4 to 5

- Wear PPE to protect employees
- Properly store and cover clean textiles
- Disinfect all hard surfaces
- Wash hands frequently
- Do not touch nose, mouth, eyes, face
- Control the process, manage the critical control areas

## BREAK THE CHAIN FROM 5 to 6

- Properly launder contaminated textiles
- Employees stay home when sick to reduce the spread



# ECOLAB RECOMMENDATIONS FOR COMMERCIAL LAUNDERING

**The Centers for Disease Control (CDC) states to launder COVID-19 contaminated linens as normal** and approves homestyle laundering with warmest water possible

- Commercial laundering processing is superior to home laundering recommendations due to many factors including detergency, mechanical action, temperature (in laundry and finishing steps), pH swings
  - The COVID-19 microorganism is an enveloped virus. Enveloped viruses can be deactivated even with normal laundering practices
- Option: if customer wants to go above and beyond for infection prevention, a recommended practice is to add an antimicrobial

## HEALTHCARE LINENS / OTHER CRITICAL LINENS (IDENTIFIED BY CUSTOMER)

- Ecolab RECOMMENDS as a best practice to follow CDC guidance for washing contaminated healthcare linens:
  1. Wash at 160°F for 25 min
  2. Wash at 140°F for 5 min with AdvaCare Disinfectant at 4 oz/CWT (disinfection level)

# CLEANING, DISINFECTION, HYGIENE

How can we help managing risks related to the novel coronavirus (COVID- 19) in commercial laundry operations?

Textile hygiene, hand hygiene and hard surface disinfection can further reduce the risk of transmission

It's critical to reinforce standard hygiene precautions in all aspects of the commercial laundry

Follow trade association standards, such as Healthcare Laundry Accreditation Council (HLAC) and TRSA Hygienically Clean Best Management Practices (BMPs) to support best practices in plant cleanliness and process controls



**TEXTILE HYGIENE**



**HAND HYGIENE**



**SURFACE DISINFECTION**

# TEXTILE HYGIENE RECOMMENDATIONS

You may be able to **reduce your risk** of infection by doing the following:

- Communicate that all soiled linen needs to be bagged properly at the point of collection – no loose soiled linen
- Ensure all linens should be treated as if they are contaminated and universal handling precautions are followed
- Avoid touching nose, mouth, eyes, and face while handling contaminated linens
- Wash hands properly and wear all PPE to protect employees from exposure
- Do not excessively shake contaminated linens



# TEXTILE HYGIENE RECOMMENDATIONS

## SEPARATION OF CLEAN AND SOILED LINENS

You may be able to **reduce your risk** of infection by doing the following:

- Ensure a proper separation/barrier is in place between clean and soiled linen in the plant and throughout the transportation process
  - If a physical barrier is not possible in the commercial laundry plant, it is important to disinfect the exterior of the machine after loading contaminating textiles
  - It is also important to disinfect all carts between soiled and clean linen use
  - Interior of the transportation trucks need to be disinfected between transporting soiled and clean linens; utilize the proper disinfectant
- Hands must be washed between handling of soiled linens and clean linens



# TEXTILE HYGIENE RECOMMENDATIONS

## LAUNDERING PROCESS EFFECTIVENESS

The commercial laundering process provides substantial benefits to removing contamination from the textiles above and is [significantly better than CDC guidance for home laundering contaminated COVID-19 textiles](#)

- The wash process is optimized around four parameters: time, temperature, mechanical action, chemical action
- Water throughout the process adds dilution effect
- Machine action and textiles rubbing against each other adds mechanical action to remove contaminants
- Detergent loosens contaminants, helps to remove them from the textile, suspend them in wash water solution, and sends them down the drain
- Oxidation process helps to remove contaminants, decolor stains, and some oxidizers aid in microorganism deactivation

# TEXTILE HYGIENE RECOMMENDATIONS

## LAUNDERING PROCESS EFFECTIVENESS

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- Souring (adding acid) neutralizes and optimizes textile pH
  - The rapid pH shift, potentially from pH 12 to 5 can inactivate some microorganisms
- Textile finishing includes drying or ironing at accelerated temperatures and/or steam tunneling textiles at accelerated temperatures which are detrimental to some microorganisms

All the laundering processes aid in soil and contaminant removal on textiles, resulting in a hygienically clean<sup>1</sup> textile

The Ecolab Textile Care Specialist manages and optimizes the wash formulas for your textile classifications and your operation to deliver a hygienically clean textile

# TEXTILE HYGIENE RECOMMENDATIONS

## ABOVE AND BEYOND

You may be able to **reduce your risk** of infection by doing the following for processing healthcare linens:

- Best practice: wash contaminated healthcare / critical linens following CDC and WHO recommended laundering guidelines
  - $\geq 160^{\circ}\text{F}$  for  $\geq 25$  min (thermal guidance)
  - If  $< 160^{\circ}\text{F}$ , choose a chemical that is suitable, i.e. an antimicrobial laundry disinfectant (thermal/chemical guidance)\*

\*Note: a laundry disinfectant can compensate for not being able to reach a temperature of  $160^{\circ}\text{F}$  for at least 25 min; low temperature laundry programs should be evaluated for microbial effectiveness

No recommendation has been made to destroy/incinerate potentially contaminated COVID-19 linen



**Laundry Disinfectant / Laundry Sanitizer**  
[Antimicrobial intervention in the wash process]  
ADVACARE DISINFECTANT, EPA Reg. 1677-193

# TEXTILE HYGIENE RECOMMENDATION

## TEXTILE STORAGE

- All surfaces touching clean textiles need to be cleaned and disinfected frequently by an EPA registered hard surface disinfectant with the proper emerging pathogen claim to avoid cross contamination
- All employees handling clean linen must wash their hands frequently to avoid contaminating clean textiles
- Textiles should be fully dried to avoid additional moisture which can aid in microorganism growth
- Textiles should be covered appropriately to avoid air and dust contamination
- Important to monitor temperature, humidity and proper linen covers to avoid microorganism growth, especially in healthcare commercial laundries and in the hospital storage areas

*After all...*

*Of all the surfaces in the hospital, the patient has the greatest degree of contact with their patient gown and bed linens*

# HAND HYGIENE RECOMMENDATIONS

You may be able to **reduce your risk** of infection by doing the following:

- Wash your hands often and correctly with soap and water, and use hand sanitizer
  - Wash for at least 20 seconds with the hottest water possible
- Avoid touching your eyes, nose, or mouth with unwashed hands



## Hand Soaps/Sanitizers\*

VARIETY OF REGULAR AND LIQUID SOAPS

VARIETY OF REGULAR AND ANTIMICROBIAL FOAMING SOAPS

VARIETY OF LIQUID HAND SANITIZERS

VARIETY OF FOAMING HAND SANITIZERS

\* Consult with your Ecolab Specialist for specific hand care products to meet your needs

# SURFACE DISINFECTION

You may be able to **reduce your risk** of infection by doing the following:

- Disinfect all hard surfaces touching soiled and clean linens frequently with an EPA registered hard surface disinfectant with the proper emerging pathogen claim
  - Example areas include conveyors, folding tables, shelves, carts, interior of the trucks, exterior of the laundry machine
  - Cleaning and disinfection is critical to help avoid the risk of recontaminating clean linens
- Follow label directions for proper contact time
- Clean and disinfect personal objects and personal workspaces often

## Hard Surface Disinfectants

[Can be used against COVID-19 when used as directed for hard surfaces]

### CONCENTRATED PRODUCTS

- 14 PLUS ANTIBACTERIAL ALL-PURPOSE CLEANER
- OASIS 499 HBV DISINFECTANT CLEANER
- NEUTRAL DISINFECTANT CLEANER
- PEROXIDE MULTI SURFACE CLEANER AND DISINFECTANT

### READY TO USE PRODUCTS

- MULTI-PURPOSE DISINFECTING WIPES
- VIRASEPT

# PROPER USE OF PPE

You may be able to **reduce your risk** of infection by doing the following:

- Wear PPE to protect from potential contaminants
  - Consider barrier gowns, gloves, safety glasses, masks
  - PPE can be a reminder to avoid touching mouth, nose, eyes with soiled hands
- Know proper procedures for putting on (doffing) and taking off (donning) PPE
- Wash hands after removing PPE



# STEPS TO TAKE IN YOUR BUSINESS

- Ensure employee health and hygiene practices are in place, especially proper hand hygiene
- Disinfect hard surfaces and high-touch areas frequently with an EPA disinfectant with an emerging pathogen claim
- Ensure availability and proper training of personal protective equipment (PPE) where appropriate
- Ensure proper training for handwashing, disinfection processes, handling soiled linens and using universal precautions
- Audit the implemented processes on a regular basis





# WE'RE HERE TO HELP

- We know your business, and your customer's business
- Our Ecolab Service associate can support you in times of crisis
- Your laundering process is effective and superior to recommended CDC guidelines for COVID-19 laundering recommendations
- Ecolab provides solutions beyond the wash process to protect your employees and linens; handcare and EPA hard surface disinfectants with emerging pathogen claims (covering COVID-19)



Together we can help to break the chain of infection by implementing strong process controls in your commercial laundry



**TOGETHER,  
WE CAN MAKE  
A DIFFERENCE**

**ECOLAB®**