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# SOMERSET COUNTY

COVID-19 RESOURCE DOCUMENT: FARMER MARKETS

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JUNE 2020





## LIVING SUSTAINABLY:

Somerset County would like to thank you for supporting our Agricultural Community during these unprecedented times.

It is Freeholder Marano's goal to ensure our citizens have access to healthy foods. It is also her goal to ensure our farmers are able to continue to support the public in providing fresh, local and healthy foods in a safe outdoor environment.

It is important to remember our Agricultural Community is the backbone of our society. It is Somerset County's hope our towns will use the information found in this document as a how-to guide on confidently and safely hosting farmers markets.

## QUESTIONS?

Katelyn A. Katzer  
Principal Planner – SCADB Administrator  
Somerset County Planning Division  
20 Grove Street • P.O. Box 3000  
Somerville, NJ 08876-1262  
[www.co.somerset.nj.us](http://www.co.somerset.nj.us)  
[katzer@co.somerset.nj.us](mailto:katzer@co.somerset.nj.us)  
Ph: 908.541.5774  
Fx: 908.707.1749



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## RESOURCES FOR FARM MARKETS

The following are answers to questions commonly asked by towns and the general public. The information provided below is a compilation from [CDC guidelines](#), recommendations by [Rutgers University](#), and testimonials from other State's markets.






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## WHAT SOCIAL DISTANCING MEASURES CAN COMMUNITY FARMERS MARKETS AND ON-FARM RETAIL OUTLETS IMPLEMENT TO PROTECT THE WELL-BEING OF STAFF AND CUSTOMERS?

- ✿ Limit and control access at the market to ensure proper social distancing by establishing clearly marked entrance and exit points for customers.
  - ✿ **Post ample and prominent signage** indicating proper social distancing (i.e. keep 6 feet away from others), hand washing, cloth face covering use, and hygiene etiquette.
  - ✿ Post information at the sales location, websites, and social media platforms. Post signage indicating that **customers feeling ill** should not enter, for example: "If you feel ill, please do not shop today".
  - ✿ When possible offer shopping assistance to those who may be ill and unable to shop themselves.
  - ✿ Consider online ordering, designated pick-up times, alternative pickup locations or delivery options.
  - ✿ Keep customers at a distance from product and staff by using stanchion posts with retractable belts or other low-tech solutions.
  - ✿ Postpone any scheduled events other than product sales.
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## PRECAUTIONS THAT CAN BE TAKEN

-  Place **signage** at entrances and throughout the areas of the farm that the public has access to. Signage should include reminders about social distancing requirements, face coverings, personal hygiene etiquette, and **handwashing requirements**. You may want to include signage about the picking process, directional signage to manage customer flow, signage indicating where restrooms and **handwashing stations** are located, a reminder to throw all trash into trash cans, and that customers should not be eating while at the farm.
  -  Workers and customers are required to **wear face coverings** while on the premises. **Cloth face coverings are required for access to your essential retail business by both customers and employees.** Face coverings are not required for those where it would inhibit the individual's health. You may not ask for proof of their health condition, and this will likely be a rare occurrence. Customers refusing to wear a face covering for non-medical reasons must be denied entry and you should make alternative purchasing options available to them. Children under the age of two are not required to wear a face covering.
  -  Visibly mark 6' spacing at check-out locations. Tape can be used to space out 6' demarcations on hard floor surfaces at check-out locations. For check-out areas that are outdoors marking paint can be used to indicate 6' distances on gravel or grass surfaces. Reapplications will likely be needed throughout the season. **Signage should be posted reminding customers of the 6' distancing requirements.**
  -  Install a physical barrier, when possible, to allow for distancing at check-out. There are many ways to create a barrier at checkout to improve the safety of your staff and your customers. Plexiglass and wood have been the most common materials used to build these. A quick fix could be cellophane wrap around vertical posts or poles. In most cases it is easier to conduct payment through a gap between your check out table and the bottom of the plexiglass. This way customers will not have to lean around the divider to pay. If you decide to allow customers to bring their own bags, ensure that employees are trained to not handle those bags or allow those bags on your tables or counter tops. The customer should always maintain control of their bags and should load their goods into their bags themselves.
  -  Provide contactless payment options, where feasible, and pickup or delivery of goods, when possible. Consider applications such as PayPal, Venmo, Apple Pay, Cash app and others to facilitate a cashless pay system. Checks or exact change are better than having to make change. You may consider charging by the container size picked rather than the weight of the produce picked this season. The cost of the new container provided to the customer could be factored into the price. Consider offering pre-boxed or pre-bagged items for grab and go purchases.
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## PRECAUTIONS THAT CAN BE TAKEN

- ✿ Provide sanitization materials, such as **hand sanitizer** and sanitizing wipes, to staff and customers. **Have handwashing stations at several locations on the farm.** If the field is not next to the checkout area have handwashing stations out in the field. Post handwashing signage in appropriate languages at each handwashing station. Designate the responsibility of monitoring handwashing facility supplies (water, soap, paper towels) to an individual and provide ample supplies for restocking.
- ✿ Require regular handwashing, coughing and sneezing etiquette, proper tissue usage, and disposal. Everyone should wash their hands often for 20 seconds with soap and water. This means as soon as customers come to the farm, when they use bathroom facilities, etc. If hand sanitizers are available customers should wash hands then apply hand sanitizers. **The sanitizer should be at least 62% alcohol.**

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# WHAT MEASURES SHOULD BE TAKEN TO DISINFECT AREAS OF MARKETS ACCESSIBLE TO THE PUBLIC?

## FOR HARD SURFACES SUCH AS TABLES, BINS, AND OTHER SURFACES:

Follow the four-step process for your regular cleaning and sanitizing of surfaces:

- ✿ Remove all visible debris from the surface.
- ✿ Use a detergent appropriate for the surface and scrub as necessary.
- ✿ Rinse the surface completely of debris and detergent.
- ✿ Use a food contact surface approved sanitizer and always follow the label directions.

**NOTE:** To disinfect a surface the Center for Disease Control and Prevention (CDC) recommends bleach OR 70% alcohol. To make a bleach solution, mix: 5 tablespoons (1/3rd cup) bleach per gallon of water OR 4 teaspoons bleach per quart of water.

Visit the [EPA list of disinfectants for use against coronavirus](#) for more information.

## FOR SOFT SURFACES SUCH AS TABLECLOTHS, CLOTHING, AND TOWELS:

Following CDC guidelines:

- ✿ Use soap and water, or other appropriate cleaners for use on these items.
- ✿ For items that can be laundered, consult the manufacturer's instructions and use the warmest appropriate water and dryer settings.
- ✿ As alternatives to soap and water or laundering, disinfect by following the label instructions of an Environmental Protection Agency (EPA)-registered product.

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## WHAT PERSONAL SANITATION MEASURES SHOULD BE IMPLEMENTED AT THE MARKET?

- ✿ Provide hand sanitizer at the entry/exit from the market.
- ✿ Do-it-yourself cleaning products are not typically recommended, however scientifically valid solutions like [homemade hand sanitizers \(PDF\)](#) are available.
- ✿ Establish handwashing stations at the entry/exit of the market for customers and in a designated location for staff/vendors.
- ✿ Designate responsibility of monitoring and restocking these facilities. Employees should follow [NJ Food Code requirements \(PDF\)](#) for handling ready to eat food.
- ✿ Touchless payment options can reduce cross-contamination risk.
- ✿ Consider supplying hand sanitizer, single-use gloves, and implementing frequent sanitizing of electronic payment touch surfaces.

## WHAT SHOULD A FARM MARKET MANAGER/EMPLOYEE DO IF YOU BELIEVE A CUSTOMER OR EMPLOYEE WITH COVID-19 HAS BEEN IN THE MARKET?

Follow [CDC recommendations for cleaning workplace facilities](#) if someone was discovered to be sick. These recommendations are not specific to food facilities, but food is not currently thought to be a transmission vehicle for COVID-19.



# SUGGESTIONS FOR MARKET CLEANING

## CLEANING AND DISINFECTION

Current evidence suggests that novel coronavirus may remain viable for hours to days on surfaces. Cleaning followed by disinfection is recommended by the CDC as a best practice measure for prevention of COVID-19 and other viral respiratory illnesses in households and community settings

### SURFACES

- ✿ Clean surfaces using a detergent or soap and water prior to disinfection.
- ✿ CDC recommends diluted household bleach solutions, alcohol solutions with at least 70% alcohol, and compounds on the EPA recommended list.

**Please note:** This information is based on current data, but compounds have not been validated for COVID-19.

### DILUTING BLEACH

- ✿ Follow manufacturer's instructions for application and proper ventilation.
- ✿ Prepare a bleach solution by mixing:
  - ✿ 5 tablespoons (1/3 cup)
  - ✿ 4 teaspoons bleach per
- ✿ Use containers of bleach that have been opened no longer than 30 days.

## IF CLEANING UP AFTER AN INFECTED INDIVIDUAL

- ✿ Wear disposable gloves while cleaning and discard after cleaning. Follow glove removal procedure to avoid contaminating hands ([go.ncsu.edu/cdcgloves](http://go.ncsu.edu/cdcgloves)). Wash your hands after removing gloves.
- ✿ Clean any porous surfaces (carpets, clothing, linens, etc.) with appropriate cleaners and/or launder items using the warmest appropriate water setting. Dry completely.
- ✿ Do not shake dirty laundry. This will minimize the possibility of spreading virus through the air.

Additional resource documents available in the appendix.

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# WHAT PROCEDURES SHOULD FARM MARKETS IMPLEMENT TO ENSURE PROPER FOOD/AGRICULTURAL PRODUCT HANDLING?

- ✿ All standard good food handling practices apply. Prevent cross-contamination of ready-to-eat food by properly using utensils such as tongs, single use gloves, or other suitable dispensing tools.
  - ✿ Provide single-use gloves for staff. Conduct training on how to properly use gloves.
    - ✿ Wash hands prior to putting on gloves.
    - ✿ Remove gloves prior to taking a break, eating, using the restroom, or any other time they may become damaged or contaminated.
    - ✿ Wash hands and replace with a new set of gloves.
  - ✿ The CDC recommends the use of cloth face coverings.
    - ✿ Maintain face coverings in accordance with FDA's Model Food Code.
      - ✿ Launder between daily use
      - ✿ Store clean coverings separate from used coverings
    - ✿ Follow CDC guidelines for proper use of face coverings.
  - ✿ Consider removing self-service options for customers, instead have staff handle and package produce as the customer dictates.
  - ✿ Vendors may want to display samples of produce items, with produce available for sale secured in coolers or other protected areas.
  - ✿ Vendors/staff should designate one person to handle produce, and one person to handle payments.
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# EXECUTIVE ORDERS TO KEEP IN MIND, AND HOW THEY EFFECT FARMER MARKETS

## EXECUTIVE ORDER NO. 122

### **Cloth Face Coverings for Retail Employees**

The Governor signed Executive Order No. 122 into law on Wednesday, April 8th. This rule impacts retail sales locations that fall under the Executive Order No. 107 “essential retail business” category. While many of the items would not be considered new, the requirement of cloth face coverings and gloves for employees is.

Workers are required to wear face coverings while at the retail location unless the covering would inhibit the individuals health. Businesses are required to supply face coverings to workers. The Executive Order does not acknowledge the fact that purchasing facemasks is currently very difficult. The Executive Order does state that workers can supply their own face covering when preferred by the employee.

### **Language specific to cloth face coverings and glove use from Executive Order No. 122 is below:**

Essential retail businesses that are still permitted to operate under Executive Order No. 107 (2020) must adopt the following policies:

Require workers and customers to wear cloth face coverings while on the premises, except where doing so would inhibit that individual’s health or where the individual is under two years of age, and require workers to wear gloves when in contact with customers or goods. Businesses must provide, at their expense, such face coverings and gloves for their employees. If a customer refuses to wear a cloth face covering for non-medical reasons and if such covering cannot be provided to the individual by the business at the point of entry, then the business must decline entry to the individual, unless if the business is providing medication, medical supplies, or food, in which case the business policy should provide alternate methods of pickup and/or delivery of such goods. Nothing in the stated policy should prevent workers or customers from wearing a surgical-grade mask or other more protective face covering if the individual is already in possession of such equipment, or if the business is otherwise required to provide such worker with more protective equipment due to the nature of the work involved. Where an individual declines to wear a face covering on store premises due to a medical condition that inhibits such usage, neither the essential retail business nor its staff shall require the individual to produce medical documentation verifying the stated condition.

## WHAT POINT OF SALE INFORMATION SHOULD BE POSTED FOR CUSTOMERS?

- ✿ Provide science-based information for your customers so they understand what risk reduction measures you are taking, and why.
- ✿ Fresh produce should be washed prior to use, unless packaging indicates it does not need washing. Hard rind produce, such as melons, can be scrubbed with a brush.

## CAN COVID-19 BE TRANSMITTED BY HANDLING OR CONSUMING FOOD?

- ✿ There are no documented cases of COVID-19 transmission from food.
- ✿ [CDC COVID-19 FAQs](#) state: “Currently there is no evidence to support transmission of COVID-19 associated with food”
- ✿ [U.S. Food and Drug Administration \(FDA\) website](#) states: “Currently there is no evidence of food or food packaging being associated with transmission of COVID-19.”

## CAN COVID-19 BE TRANSMITTED FROM PACKAGING AND OTHER SURFACES?

- ✿ [FDA website](#) states: “Currently there is no evidence of food or food packaging being associated with transmission of COVID-19.”
  - ✿ It may be possible to get COVID-19 by touching a surface or object that has the virus on it and then touching mouth, nose, or eyes, but this is not thought to be the main way the virus spreads.
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# APPENDIX

SIGNAGE  
&  
ADDITIONAL RESOURCES

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# APPENDIX CONTENTS

**A. MARKET SIGNAGE****B. PROPER GLOVE REMOVAL INFOGRAPHIC****C. PROTECT YOURSELF AND OTHERS INFOGRAPHIC****D. MASKS AND FACE COVERINGS INFOGRAPHIC (ENGLISH/SPANISH)****E. COVID-19 PREVENTATIVE MEASURES**

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**I. COVID-19 FOOD SAFETY FAQ**

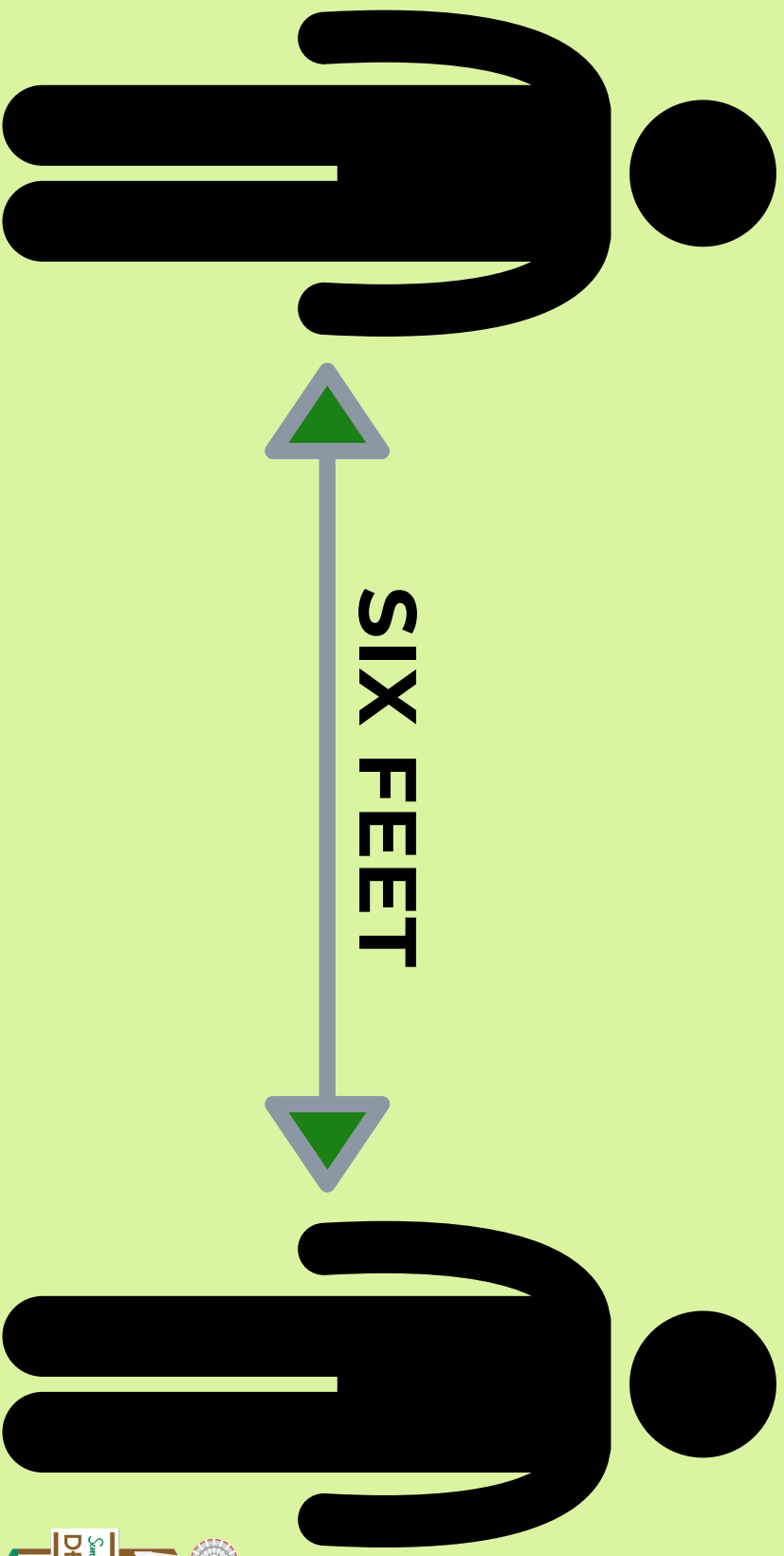
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**PLEASE MAINTAIN**

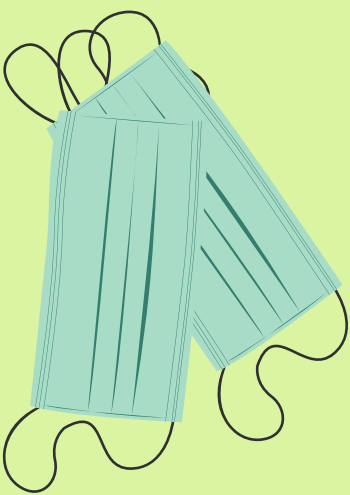
**SOCIAL DISTANCING**





# FACE COVERINGS REQUIRED TO SHOP INSIDE








PLEASE ASK FOR HELP IF YOU DO NOT HAVE  
OR ARE UNABLE TO WEAR A FACE COVERING.







# PLEASE FOLLOW OUR MARKET POLICIES

-  WEAR A FACE COVERING
-  MAINTAIN SOCIAL DISTANCING
-  WASH HANDS BEFORE PICKING
-  WASH HANDS BEFORE EATING
-  FOLLOW DIRECTIONAL SIGNAGE IN
-  PICKING AND CHECK-OUT AREAS
-  PLACE ALL TRASH IN TRASH CANS



# How to Remove Gloves

To protect yourself, use the following steps to take off gloves



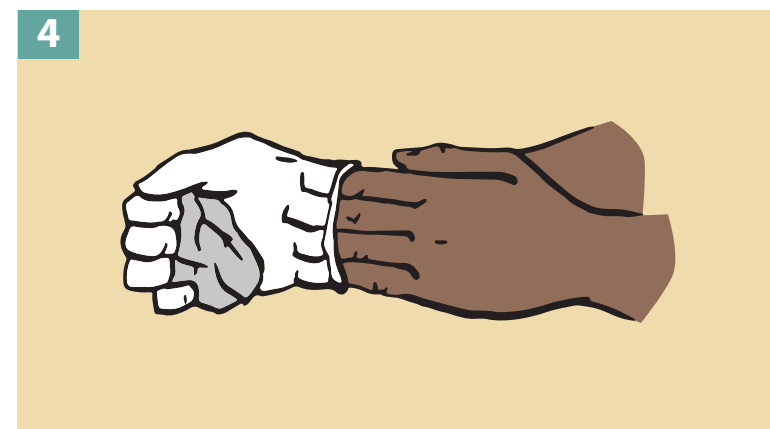
1 Grasp the outside of one glove at the wrist. Do not touch your bare skin.



2 Peel the glove away from your body, pulling it inside out.



3 Hold the glove you just removed in your gloved hand.



4 Peel off the second glove by putting your fingers inside the glove at the top of your wrist.



5 Turn the second glove inside out while pulling it away from your body, leaving the first glove inside the second.

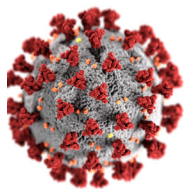


6 Dispose of the gloves safely. Do not reuse the gloves.



7 Clean your hands immediately after removing gloves.

# What you should know about COVID-19 to protect yourself and others



## Know about COVID-19

- Coronavirus (COVID-19) is an illness caused by a virus that can spread from person to person.
- The virus that causes COVID-19 is a new coronavirus that has spread throughout the world.
- COVID-19 symptoms can range from mild (or no symptoms) to severe illness.



## Know how COVID-19 is spread

- You can become infected by coming into close contact (about 6 feet or two arm lengths) with a person who has COVID-19. COVID-19 is primarily spread from person to person.
- You can become infected from respiratory droplets when an infected person coughs, sneezes, or talks.
- You may also be able to get it by touching a surface or object that has the virus on it, and then by touching your mouth, nose, or eyes.



## Protect yourself and others from COVID-19

- There is currently no vaccine to protect against COVID-19. The best way to protect yourself is to avoid being exposed to the virus that causes COVID-19.
- Stay home as much as possible and avoid close contact with others.
- Wear a cloth face covering that covers your nose and mouth in public settings.
- Clean and disinfect frequently touched surfaces.
- Wash your hands often with soap and water for at least 20 seconds, or use an alcohol-based hand sanitizer that contains at least 60% alcohol.



## Practice social distancing

- Buy groceries and medicine, go to the doctor, and complete banking activities online when possible.
- If you must go in person, stay at least 6 feet away from others and disinfect items you must touch.
- Get deliveries and takeout, and limit in-person contact as much as possible.



## Prevent the spread of COVID-19 if you are sick

- Stay home if you are sick, except to get medical care.
- Avoid public transportation, ride-sharing, or taxis.
- Separate yourself from other people and pets in your home.
- There is no specific treatment for COVID-19, but you can seek medical care to help relieve your symptoms.
- If you need medical attention, call ahead.



## Know your risk for severe illness

- Everyone is at risk of getting COVID-19.
- Older adults and people of any age who have serious underlying medical conditions may be at higher risk for more severe illness.



# MASKS AND FACE COVERINGS

## BEST PRACTICES FOR MASKS AND FACE COVERING USAGE

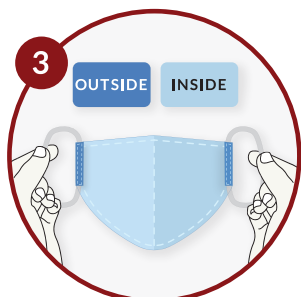
### DONNING MASKS



**1 WASH HANDS**  
Wash hands with soap and water for 20 seconds  
OR use a >60% alcohol-based hand rub before donning (putting on) mask.



**2 CHECK MASK**  
Check which side is the "inside" and "outside" of mask. If needed, use a marker to mark the "inside" and "outside" of mask.



**3 PUT MASK ON**  
Carefully put mask on without touching face, nose, or mouth.



**4 MASK PLACEMENT**  
Mask must cover mouth and nose!  
Adjust the mask to fit.



**5 DON'T TOUCH MASK**  
Avoid touching the mask when it's on!  
If you do touch mask, repeat Step 1.

### DOFFING MASKS



**1 WASH HANDS**  
Wash hands with soap and water for 20 seconds  
OR use a >60% alcohol-based hand rub before doffing (taking off) mask.



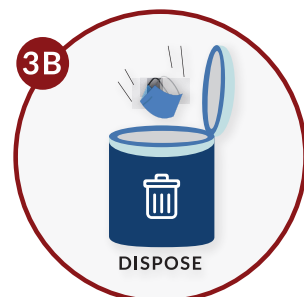
**2 REMOVE CAREFULLY**  
Avoid touching the front or inside of the mask. Virus particles may be present on either side.



**3A STORE AND WASH**  
Washable mask: Put mask into a disposable or cleanable bag or container. Launder in the washing machine. Store mask in container while not wearing. Wash mask daily.

OR

**3B DISPOSE**  
Disposable mask: Throw away immediately into trash

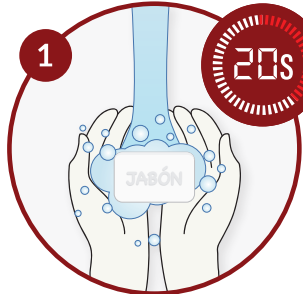


**4 WASH HANDS**  
Wash hands with soap and water for 20 seconds OR use a >60% alcohol-based hand rub after taking off mask. If you do touch mask, rewash your hands.

# MÁSCARAS Y CUBIERTAS FACIALES

## MEJORES PRÁCTICAS PARA EL USO DE MÁSCARAS Y CUBIERTAS FACIALES

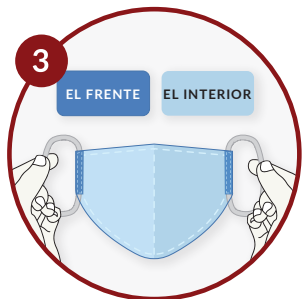
### PONIÉNDOSE LA MÁSCARA



**1 LAVARSE LAS MANOS**  
Lávese las manos con agua y jabón durante 20 segundos O use un desinfectante para manos conteniendo al menos 60% de alcohol antes de ponerse la máscara.



**2 CHECK MASK**  
Verifique de qué lado está el "interior" y el "exterior" de la máscara. Si es necesario, use un marcador para marcar el "interior" y el "exterior" de la máscara.



**3 PONERSE LA MÁSCARA**  
Póngase la máscara con cuidado sin tocar la cara, la nariz o la boca.



**4 COLOCACIÓN DE LA MÁSCARA**  
¡La máscara debe cubrir la boca y la nariz! Ajuste la máscara para que le acomode.



**5 NO TOQUE LA MÁSCARA**  
¡Evita tocar la máscara cuando la tenga puesta! Si toca la máscara, vuelva a lavarse las manos.

### QUITÁNDOSE LA MÁSCARA



**1 LAVARSE LAS MANOS**  
Lávese las manos con jabón durante 20 segundos O use un desinfectante para manos conteniendo al menos 60% de alcohol antes de quitarse la máscara.



**2 REMOVER CON CUIDADO**  
Evite tocar el frente o el interior de la máscara. Las partículas de virus pueden estar presentes en ambos lados.



**3A ALMACENAR Y LAVAR**  
Máscara lavable: coloque la máscara en una bolsa o contenedor desechable o lavable. Lavar en la lavadora. Guarde la máscara en el recipiente mientras no la use. Lave la máscara diariamente.



**3B DESECHAR**  
Mascarilla desechable: tirar inmediatamente a la basura.



**4 LAVARSE LAS MANOS**  
Lávese las manos con jabón durante 20 segundos O use un desinfectante para manos conteniendo al menos 60% de alcohol después de quitarse la máscara.



# COVID-19 PREVENTATIVE MEASURES

## BANDANAS AS CLOTH FACE COVERINGS

Cloth face coverings can be an effective way of preventing spread of infectious diseases. Bandanas are used over the mouth and nose of a person who is or might be infected to catch particles from a cough or sneeze. Face coverings provide the best protection to the wearer if they are 1) the right type for the situation, 2) worn properly and 3) handled properly. Wearing a cloth face covering can decrease risk but does not provide complete protection. Other risk reduction measures should also be followed, like physical distancing, handwashing and hand sanitizer usage, and avoiding touching eyes, mouth and nose.

### USING BANDANAS AS CLOTH FACE COVERINGS

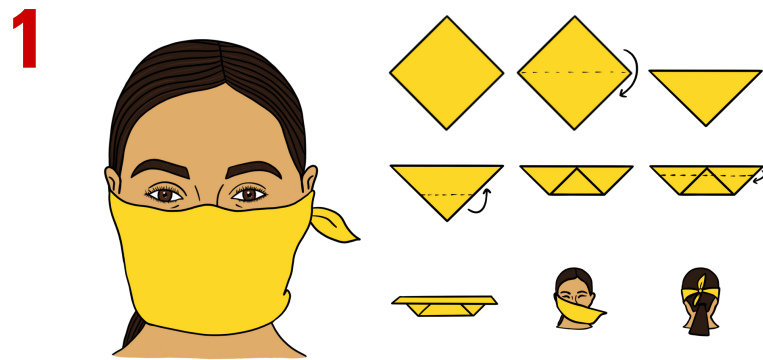
- In some settings, a bandana may be the most readily available fabric for a cloth face covering and can be worn in several different ways.
- Bandanas as cloth face coverings should be folded into multiple layers.
- It is also possible to fold around a replaceable filter.
  - Household air filters can be trimmed and used as replaceable filter inserts. Do not use air filters made with fiberglass. Filters may be found at department or home improvement stores.

### HOW SHOULD BANDANAS BE WORN?

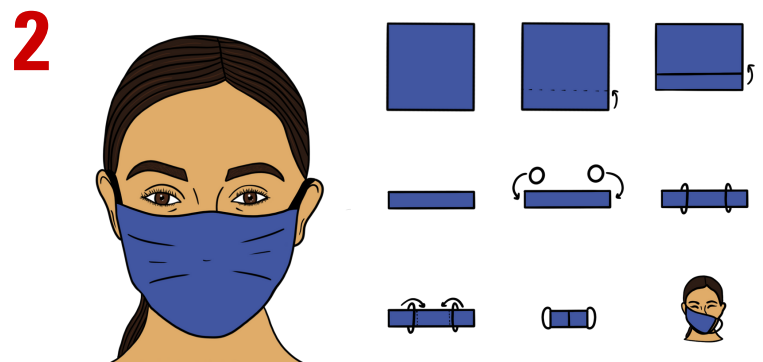
- Cloth face coverings can be uncomfortable to wear. A proper fit is tight over the nose, mouth and chin.
  - Shaving is not necessary.
- Cloth face coverings can help reduce disease transmission but wearing one does not provide absolute protection.
- According to CDC, wear bandanas whenever interacting with the public or when caring for someone who is sick or may be infected.
- It is not necessary to wear a face covering while at home or outside for exercise.

### CARING FOR BANDANAS

- Bandanas can trap moisture with use, so it is best to have several on hand to use throughout the day.
- **Bandanas should be handled assuming they are contaminated with the virus causing COVID-19.**
  - Bandanas should be removed without touching the inside. They should be immediately placed with dirty laundry, or stored in a plastic bag until they can be properly cleaned.
- Wash your hands after handling a used face covering or use hand sanitizer if hand washing is not an option. If possible, wash your face after removing a bandana.
- Bandanas should be washed at the hottest setting for the fabric and dried thoroughly before the next wear.
  - Follow CDC guidance at [go.ncsu.edu/cdclaundry](https://www.cdc.gov/media/releases/2020/s1119-covid-19-clean.html).
- Washing is more effective than heat alone, so bandanas should not be heated in microwave or conventional ovens.



Option 1 shows how to fold a plain bandana. Option 2 uses hair ties or rubber bands to create ear loops for a tighter fit.





# COVID-19 PREVENTATIVE MEASURES

## CLOTH FACE COVERINGS FOR FOOD EMPLOYEES

According to the CDC, cloth face coverings can be an effective way of preventing spread of infectious diseases. Cloth face coverings are used over the mouth and nose of a person who is or might be infected to catch virus particles from a cough, sneeze or normal talking. Face coverings provide the best protection to the wearer if they are 1) the right type for the situation, 2) worn properly and 3) handled properly. Wearing a cloth face covering can decrease risk but does not provide complete protection. Other risk reduction measures should also be followed, like physical distancing, handwashing and hand sanitizer usage, and avoiding touching eyes, mouth and nose.

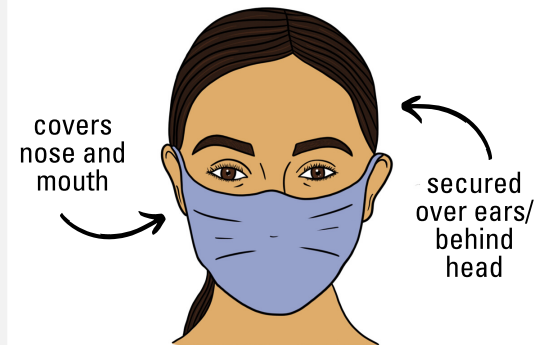
### WEARING CLOTH FACE COVERINGS IN FOOD SETTINGS

- Many essential workers at grocery stores, restaurants, farms and food manufacturing are now being asked to wear a cloth face covering during work hours.
- Cloth face coverings and gloves are intended to decrease the risk of transferring the virus particles from hands or through respiratory droplets from the mouth or nose. Face covers can also reduce transfer from inadvertently touching the nose or mouth.
- Gloves and cloth face coverings do not eliminate risk, they only reduce it; they should be used in conjunction with handwashing and hand sanitizer use and physical distancing whenever possible.
- Since cloth face coverings may become contaminated they should be changed as needed and laundered between uses.

### CARING FOR A CLOTH FACE COVERING

- Cloth face coverings can trap moisture with use, so it is best to have several on hand to use throughout the day.
- **Masks and cloth face coverings should be handled assuming they are contaminated with the virus causing COVID-19.**
  - Face coverings should be removed without touching the inside. They should be immediately placed with dirty laundry, or stored in a plastic bag until they can be properly cleaned.
- Wash your hands after handling a used face covering or use hand sanitizer if hand washing is not an option. If possible, wash your face after removing a face covering.
- Cloth face coverings should be washed at the hottest setting for the fabric, and dried thoroughly before next use.
  - Follow CDC guidance at [go.ncsu.edu/cdclaundry](https://www.cdc.gov/media/releases/2020/s1119-cloth-face-coverings.html).
- Washing is more effective than heat alone, so face coverings should not be heated in microwave or conventional ovens.

### ESSENTIAL COMPONENTS



### HOW SHOULD CLOTH FACE COVERINGS BE WORN?

- Cloth face coverings can be uncomfortable to wear. A proper fit is tight over the nose, mouth and chin.
  - Shaving is not necessary for cloth face coverings or surgical masks.
- Cloth face coverings can help reduce disease transmission but wearing one does not provide absolute protection.
- According to CDC, wear cloth face coverings whenever interacting with the public or when caring for someone who is sick or may be infected.
- It is not necessary to wear a face covering while at home or outside for exercise.

No-sew cloth face coverings can be made from cut up t-shirts or folded bandanas. For step by step instructions on no-sew and sewn versions, visit [go.ncsu.edu/cdcfacecoverings](https://go.ncsu.edu/cdcfacecoverings) or scan here.





# COVID-19 PREVENTATIVE MEASURES

## HOW TO USE CLOTH FACE COVERINGS

Face coverings can be an effective means of slowing the spread of the infectious agent for many respiratory illnesses and may help slow the spread of COVID-19.

Wearing a face covering does NOT provide complete protection and does not replace other ways of slowing virus spread such as:

- Staying away from public places & group gatherings
- Practicing physical distancing
- Washing hands and using hand sanitizer often
- Avoiding touching eyes, nose and mouth

### HOW SHOULD FACE COVERINGS BE HANDLED?

- Masks and cloth face coverings should be handled assuming they are contaminated with the virus causing COVID-19.
- Face coverings should be removed without touching the inside. They should be immediately placed with dirty laundry, or stored in a plastic bag until they can be properly cleaned.
- Wash your hands after handling a used face covering or use hand sanitizer if hand washing is not an option. If possible, wash your face after removing a face covering.
- Cloth face coverings should be washed in hot water after each use. Follow CDC guidelines at [go.ncsu.edu/cdclaundry](https://www.go.ncsu.edu/cdclaundry).

### HOW DO MASKS AND CLOTH FACE COVERINGS WORK?

- Proper use may restrict the spread of virus from an infected person, or prevent a healthy person from becoming infected.
- Facemasks are tested for their ability to trap viruses in respiratory droplets moving at high velocity, such as in a cough or sneeze.

Stay informed:  
[go.ncsu.edu/covid-19](https://www.go.ncsu.edu/covid-19)  
 Updated April 9, 2020



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# Build Your Own Hand Washing Station

## Cooperative Extension

*Meredith Melendez, Mercer County Agricultural Agent*

*Wesley Kline, Cumberland County Agricultural Agent*

This simple hand washing station costs less than \$25 and is easily transportable into the field, to farmers markets and anywhere that proper hand washing should take place.

### Parts needed:

1. A 5 gallon water container with spigot  
These can be found online or at sporting goods stores for about \$15.00
2. Two 24" bungee cords with hook ends  
These can be found at hardware stores for about \$2.00 each
3. A simple plastic paper towel holder  
These can be found at most home goods stores including dollar stores for less than \$5.00
4. Hand washing soap, pump or bar
5. Roll of paper towels
6. A bucket to capture grey water
7. Trash can or bag to collect used paper towels

### Proper hand washing includes:

1. Wet hands with running water
2. Apply liquid, bar or powder soap
3. Lather hands well, rubbing hands vigorously for at least 20 seconds. Scrub all surfaces including the backs of your hands, wrists, between your fingers and under fingernails.
4. Rinse hands well with running water
5. Dry hands with a disposable towel
6. Dispose of towel in a closed container



# CORONAVIRUS DISEASE 2019 (COVID-19)

**Patients with COVID-19 have reportedly had mild to severe respiratory illness. Symptoms can include**

- Fever
- Cough
- Shortness of breath

**\*Symptoms may appear 2-14 days after exposure.**

**Seek medical advice if you develop symptoms, and have been in close contact with a person known to have COVID-19 or if you live in or have recently been in an area with ongoing spread of COVID-19.**

[cdc.gov/COVID19-symptoms](https://www.cdc.gov/COVID19/symptoms)



# SÍNTOMAS DE LA ENFERMEDAD DEL CORONAVIRUS 2019

Los pacientes con COVID-19 han presentado enfermedad respiratoria de leve a grave.

Los síntomas\* pueden incluir

FIEBRE



TOS



\*Los síntomas pueden aparecer de 2 a 14 días después de la exposición.

Consulte a un médico si presenta síntomas y ha estado en contacto cercano con una persona que se sepa que tiene el COVID-19, o si usted vive o ha estado recientemente en un área en la que haya propagación en curso del COVID-19.

DIFICULTAD PARA RESPIRAR



Para obtener más información: [www.cdc.gov/COVID19-es](http://www.cdc.gov/COVID19-es)

# DETENGA LA PROPAGACIÓN DE LOS MICROBIOS

Ayude a prevenir la propagación de enfermedades respiratorias como el COVID-19

Evite el contacto cercano con las personas enfermas.



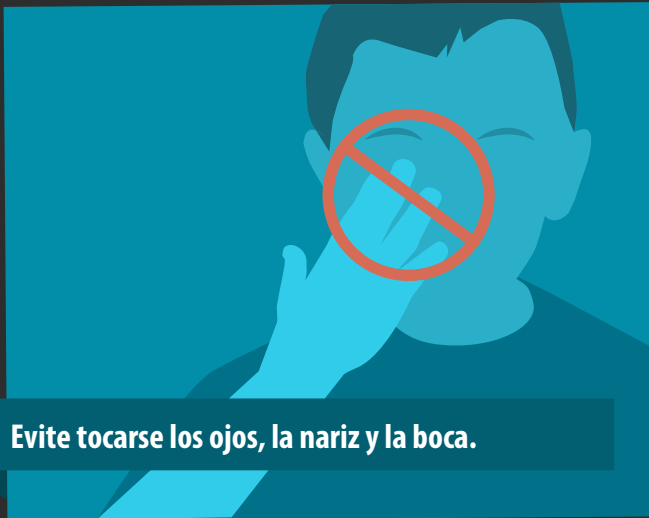
Cúbrase la nariz y la boca con un pañuelo desechable al toser o estornudar y luego bótelos a la basura.



Limpie y desinfecte los objetos y las superficies que se tocan frecuentemente.



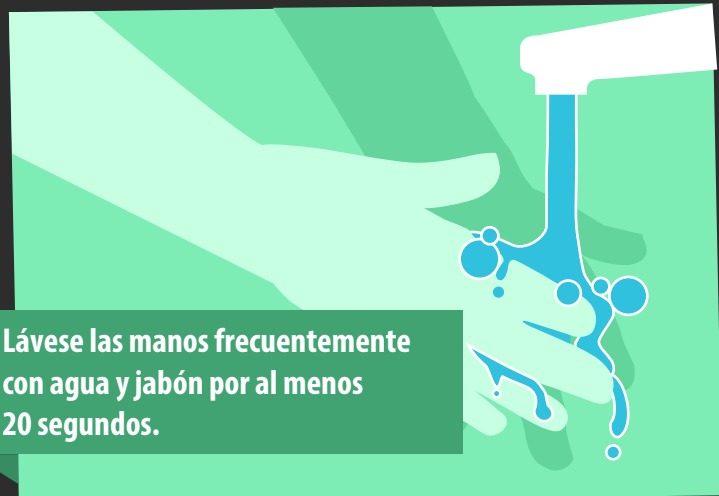
Evite tocarse los ojos, la nariz y la boca.



Quédese en casa si está enfermo, excepto para buscar atención médica.



Lávese las manos frecuentemente con agua y jabón por al menos 20 segundos.



[cdc.gov/COVID19-es](https://cdc.gov/COVID19-es)

# Share facts about COVID-19

Know the facts about coronavirus (COVID-19) and help stop the spread of rumors.

FACT  
**1**

**Diseases can make anyone sick regardless of their race or ethnicity.**

Fear and anxiety about COVID-19 can cause people to avoid or reject others even though they are not at risk for spreading the virus.

FACT  
**2**

**For most people, the immediate risk of becoming seriously ill from the virus that causes COVID-19 is thought to be low.**

Older adults and people of any age who have serious underlying medical conditions may be at higher risk for more serious complications from COVID-19.

FACT  
**3**

**Someone who has completed quarantine or has been released from isolation does not pose a risk of infection to other people.**

For up-to-date information, visit CDC's coronavirus disease 2019 web page.

FACT  
**4**

**There are simple things you can do to help keep yourself and others healthy.**

- Wash your hands often with soap and water for at least 20 seconds, especially after blowing your nose, coughing, or sneezing; going to the bathroom; and before eating or preparing food.
- When in public, wear a cloth face covering that covers your mouth and nose.
- Avoid touching your eyes, nose, and mouth with unwashed hands.
- Stay home when you are sick.
- Cover your cough or sneeze with a tissue, then throw the tissue in the trash.

FACT  
**5**

**You can help stop COVID-19 by knowing the signs and symptoms, which can include:**

- Fever
- Cough
- Shortness of breath

Seek medical attention immediately if you or someone you love has emergency warning signs, including:

- Trouble breathing
- Persistent pain or pressure in the chest
- New confusion or not able to be woken
- Bluish lips or face

This list is not all inclusive. Please consult your medical provider for any other symptoms that are severe or concerning.



[cdc.gov/coronavirus](https://cdc.gov/coronavirus)

# PREVENTIVE MEASURES

## HOW TO HELP PREVENT THE SPREAD OF COVID-19



### WASH HANDS

Wash hands frequently with soap and water OR use a >60% alcohol-based hand rub.



### SOCIAL DISTANCE

Maintain a physical distance of 2 meters (6 feet) from those around you.



### CLEAN & DISINFECT

Clean and disinfect frequently touched surfaces.



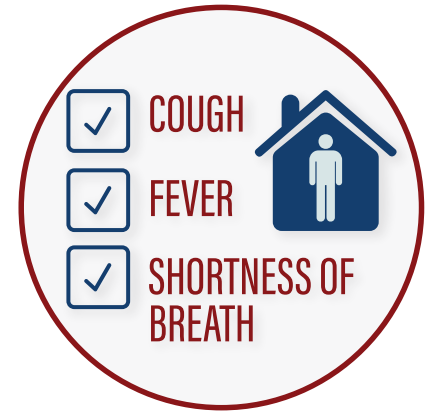
### WEAR A MASK

Wear a mask when you go out to prevent the spread of illness.



### DON'T TOUCH FACE

Avoid touching face, nose, eyes, and mouth.



### STAY HOME

Stay home if you are feeling sick or have any symptoms. Primary symptoms of COVID-19 are: cough, fever, and/or shortness of breath.

# Use of Cloth Face Coverings to Help Slow the Spread of COVID-19

## How to Wear Cloth Face Coverings

Cloth face coverings should—

- fit snugly but comfortably against the side of the face
- be secured with ties or ear loops
- include multiple layers of fabric
- allow for breathing without restriction
- be able to be laundered and machine dried without damage or change to shape

## CDC on Homemade Cloth Face Coverings

CDC recommends wearing cloth face coverings in public settings where other social distancing measures are difficult to maintain (e.g., grocery stores and pharmacies), **especially** in areas of significant community-based transmission.

CDC also advises the use of simple cloth face coverings to slow the spread of the virus and help people who may have the virus and do not know it from transmitting it to others. Cloth face coverings fashioned from household items or made at home from common materials at low cost can be used as an additional, voluntary public health measure.

Cloth face coverings should not be placed on young children under age 2, anyone who has trouble breathing, or is unconscious, incapacitated or otherwise unable to remove the cloth face covering without assistance.

The cloth face coverings recommended are not surgical masks or N-95 respirators. Those are critical supplies that must continue to be reserved for healthcare workers and other medical first responders, as recommended by current CDC guidance.

## Should cloth face coverings be washed or otherwise cleaned regularly? How regularly?

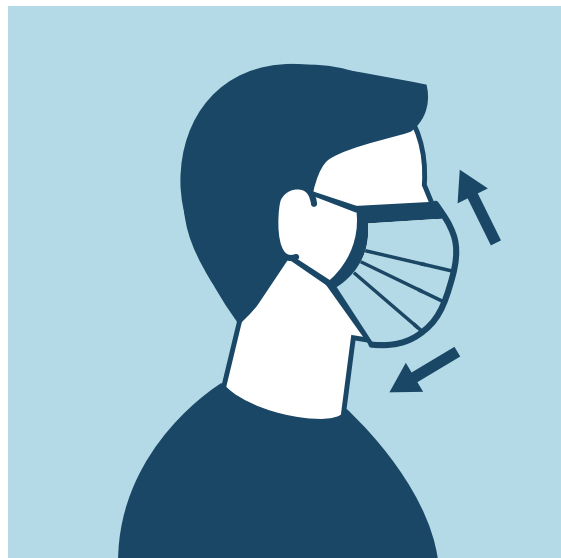
Yes. They should be routinely washed depending on the frequency of use.

## How does one safely sterilize/clean a cloth face covering?

A washing machine should suffice in properly washing a cloth face covering.

## How does one safely remove a used cloth face covering?

Individuals should be careful not to touch their eyes, nose, and mouth when removing their cloth face covering and wash hands immediately after removing.



# Uso de cubiertas de tela para la cara para ayudar a desacelerar la propagación del COVID-19

## Cómo usar cubiertas (tapabocas) de tela para la cara

Las cubiertas de tela para la cara deben:

- ajustarse bien pero de manera cómoda contra el costado de la cara
- sujetarse con cintas o cordones que se enganchan en las orejas
- incluir múltiples capas de tela
- permitir respirar sin restricciones
- poder lavarse y secarse en la secadora sin que se dañen ni cambie su forma

## Los CDC y las cubiertas de tela para la cara hechas en casa

Los CDC recomiendan usar cubiertas de tela para la cara en entornos públicos donde otras medidas de distanciamiento social sean difíciles de mantener (p. ej., supermercados y farmacias), **especialmente** en áreas donde la transmisión comunitaria es significativa.

Los CDC también aconsejan el uso de cubiertas de tela para la cara sencillas para desacelerar la propagación del virus y ayudar a evitar que las personas que podrían tenerlo y no saberlo transmitan el virus a los demás. Las cubiertas de tela para la cara elaboradas con artículos de uso doméstico o hechas en casa con materiales de bajo costo pueden usarse como una medida de salud pública voluntaria adicional.

No se deben poner cubiertas de tela para la cara a niños pequeños menores de 2 años, ni a personas con problemas para respirar, o que estén inconscientes o incapacitadas, o que de otra forma no puedan quitárselas sin ayuda.

Las cubiertas de tela para la cara recomendadas no son mascarillas quirúrgicas ni respiradores N95. Esos son suministros esenciales que se deben seguir reservando para los trabajadores de la salud y otros miembros del personal médico de respuesta a emergencias, según lo recomendado por las actuales directrices de los CDC.

## ¿Se deben lavar o de otra forma limpiar las cubiertas de tela para la cara de manera regular? ¿Con cuánta frecuencia?

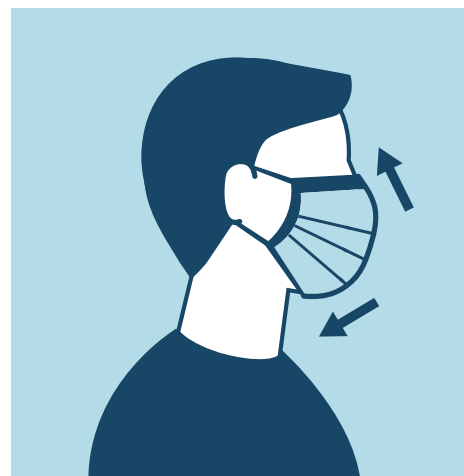
Sí. Se deberían lavar de manera habitual de acuerdo con la frecuencia del uso.

## ¿Cómo se esteriliza o limpia una cubierta de tela para la cara de manera segura?

Usar una máquina de lavar debería ser suficiente para lavar la cubierta para la cara adecuadamente.

## ¿Cómo se quita de manera segura una cubierta de tela para la cara usada?

Las personas deben tener cuidado de no tocarse los ojos, la nariz ni la boca al quitarse la cubierta para la cara, y deben lavarse las manos inmediatamente después de quitársela.



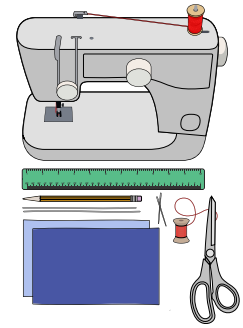
[cdc.gov/coronavirus-es](https://cdc.gov/coronavirus-es)



# Sewn Cloth Face Covering

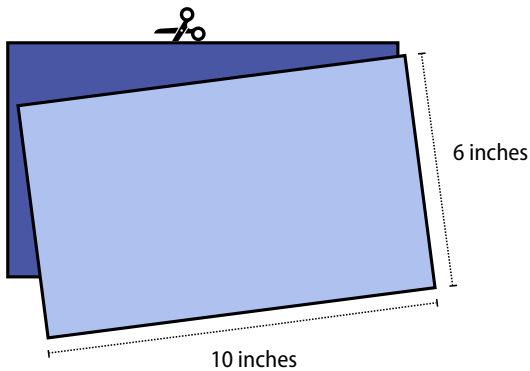
## Materials

- Two 10"x6" rectangles of cotton fabric
- Two 6" pieces of elastic (or rubber bands, string, cloth strips, or hair ties)
- Needle and thread (or bobby pin)
- Scissors
- Sewing machine

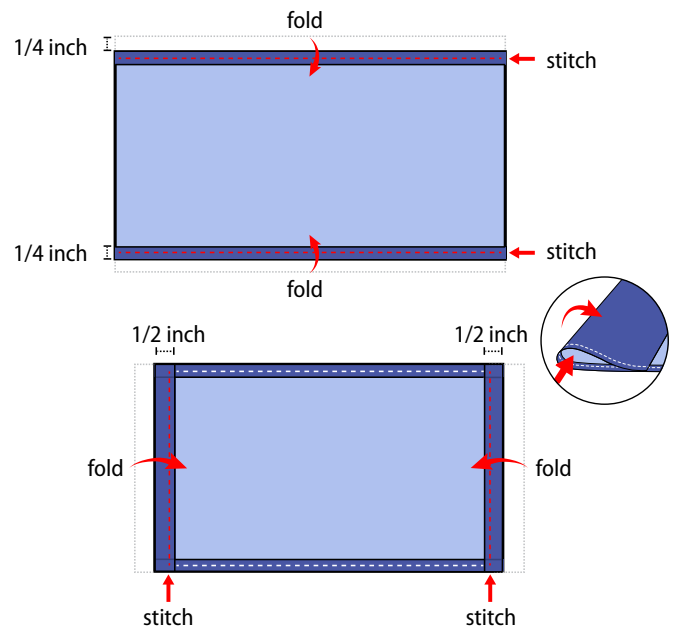


## Tutorial

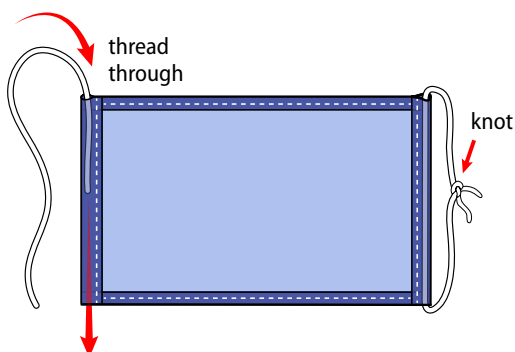
1. Cut out two 10-by-6-inch rectangles of cotton fabric. Use tightly woven cotton, such as quilting fabric or cotton sheets. T-shirt fabric will work in a pinch. Stack the two rectangles; you will sew the cloth face covering as if it was a single piece of fabric.



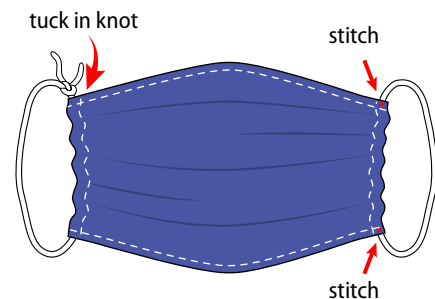
2. Fold over the long sides  $\frac{1}{4}$  inch and hem. Then fold the double layer of fabric over  $\frac{1}{2}$  inch along the short sides and stitch down.



3. Run a 6-inch length of  $\frac{1}{8}$ -inch wide elastic through the wider hem on each side of the cloth face covering. These will be the ear loops. Use a large needle or a bobby pin to thread it through. Tie the ends tight. Don't have elastic? Use hair ties or elastic head bands. If you only have string, you can make the ties longer and tie the cloth face covering behind your head.



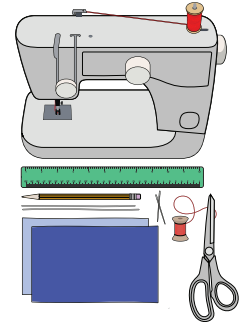
4. Gently pull on the elastic so that the knots are tucked inside the hem. Gather the sides of the cloth face covering on the elastic and adjust so the cloth face covering fits your face. Then securely stitch the elastic in place to keep it from slipping.



# Cubierta de tela para la cara cosida

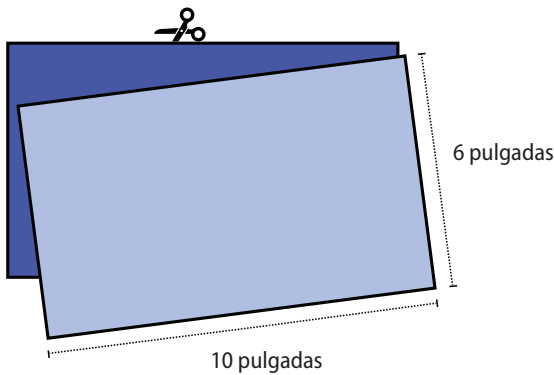
## Materiales

- Dos rectángulos de tela de algodón de 10 x 6 pulgadas
- Dos tiras elásticas de 6 pulgadas (o bandas elásticas, cordeles o cordones, tiras de tela o cintas elásticas para el cabello)
- Hilo y aguja (u horquilla [bobby pin])
- Tijeras
- Máquina de coser

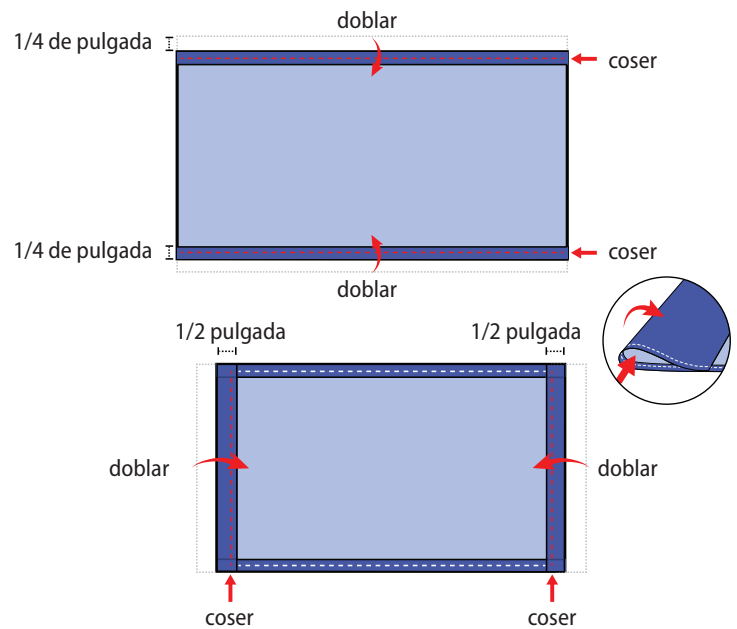


## Tutorial

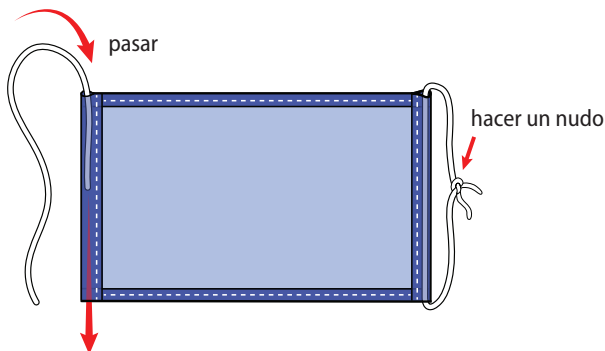
1. Corte dos rectángulos de tela de algodón de 10 por 6 pulgadas. Use material de algodón de hilado apretado, como tela de acolchados o sábanas de algodón. La tela de camisetas puede funcionar en un apuro. Coloque un rectángulo sobre el otro; la cubierta de tela para la cara se cose como si fuera una pieza de tela única.



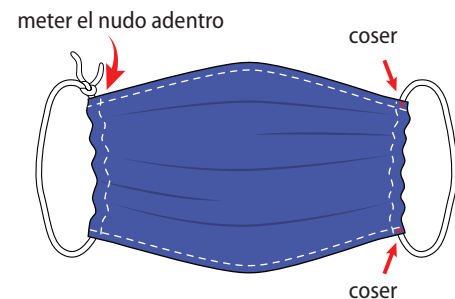
2. Doble por los bordes largos y haga un dobladillo de  $\frac{1}{4}$  de pulgada. Luego haga un dobladillo de  $\frac{1}{2}$  pulgada en la capa doble de tela a lo largo de los bordes cortos y cóselo.



3. Pase un elástico de  $\frac{1}{8}$  de pulgada de ancho y 6 pulgadas de largo a través del dobladillo más ancho a cada lado de la cubierta de tela para la cara. Estas serán las tiras que se enganchan en las orejas. Use una aguja larga o una horquilla para pasar el elástico a través del dobladillo. Ate bien los extremos.  
¿No tiene elásticos? Use cintas o bandas elásticas para el cabello. Si solo tiene cordeles o cordones, puede hacer las tiras más largas y atarse la cubierta de tela para la cara detrás de la cabeza.



4. Tire del elástico con cuidado para que los nudos queden dentro del dobladillo. Junte los costados de la cubierta de tela para la cara sobre el elástico y ajústelo para que la cubierta de tela para la cara se ajuste a su cara. Luego cosa bien el elástico para evitar que se deslice.



# Quick Cut T-shirt Cloth Face Covering (no sew method)

## Materials

- T-shirt
- Scissors

## Tutorial

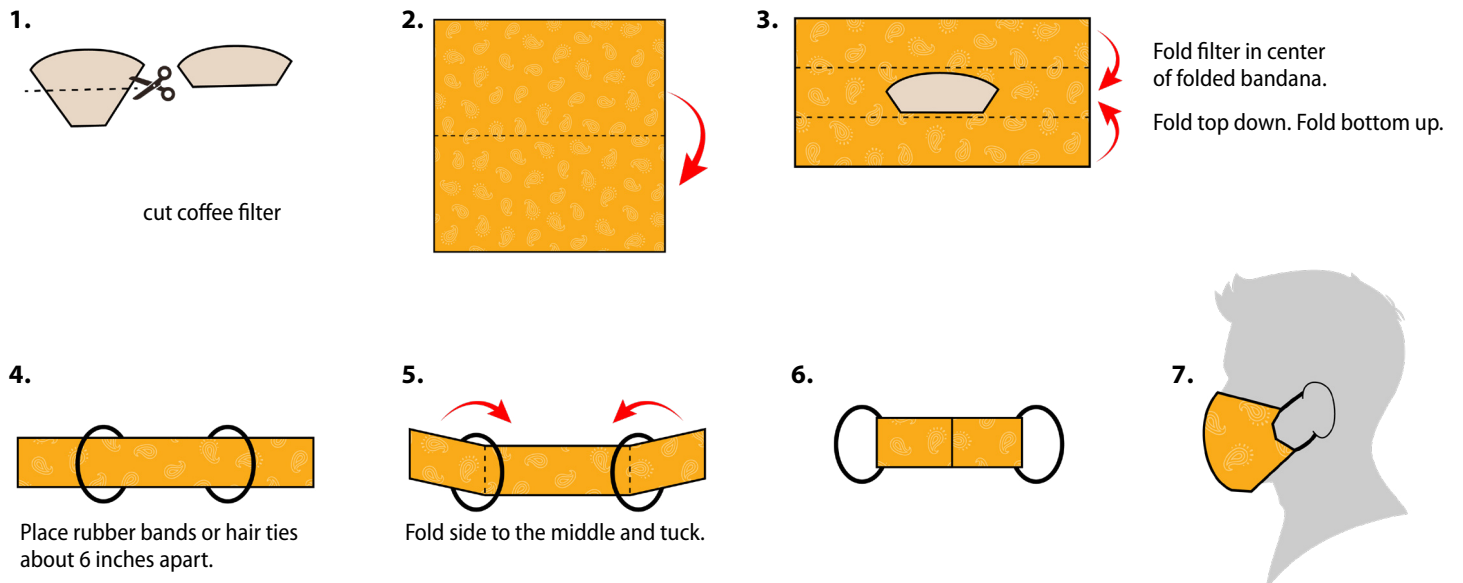


# Bandana Cloth Face Covering (no sew method)

## Materials

- Bandana (or square cotton cloth approximately 20"x20")
- Coffee filter
- Rubber bands (or hair ties)
- Scissors (if you are cutting your own cloth)

## Tutorial

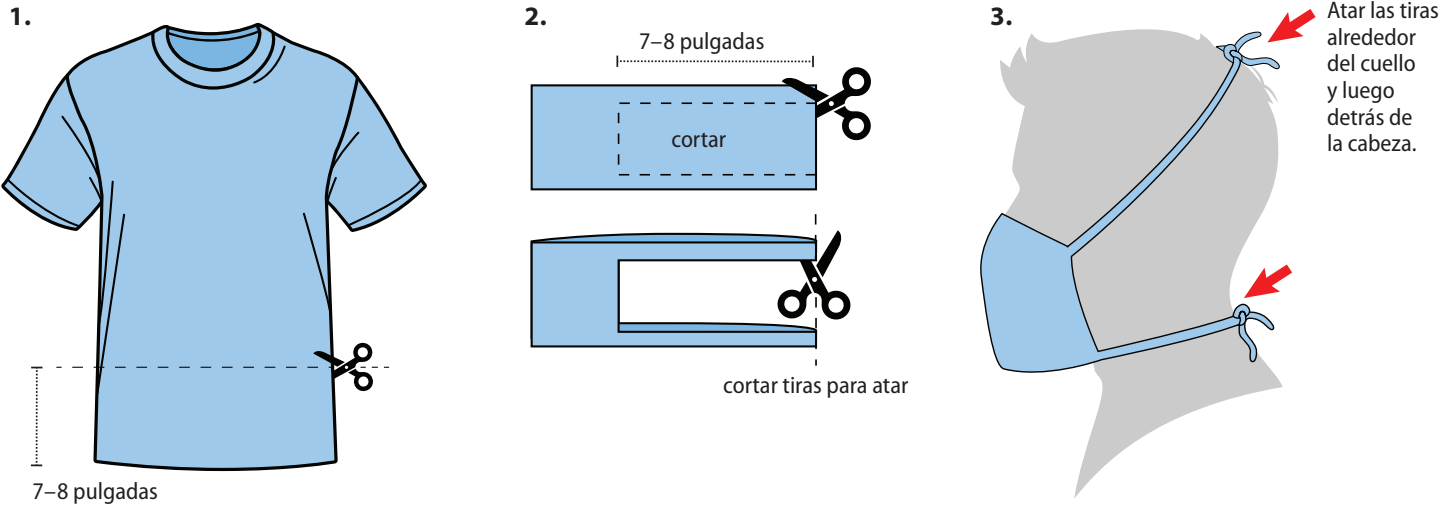


# Cubierta para la cara de corte rápido hecha con una camiseta (método sin costura)

## Materiales

- Camiseta
- Tijeras

## Tutorial

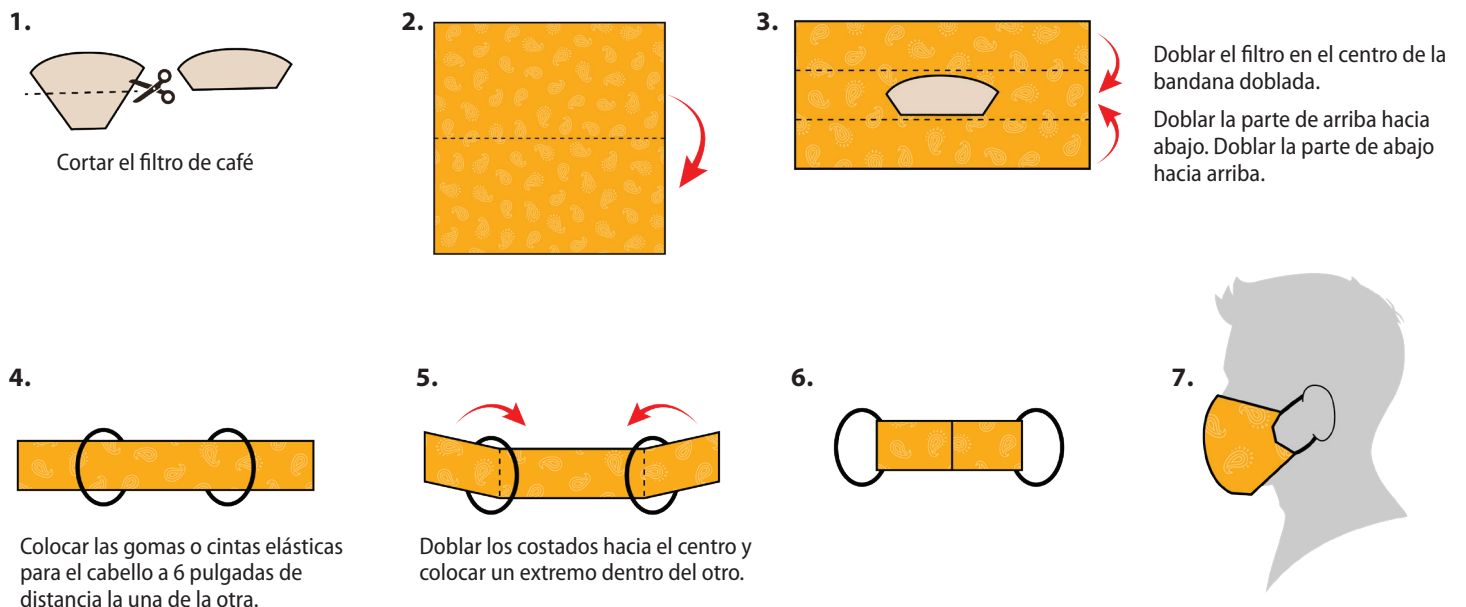


# Cubierta para la cara hecha con una *bandana* (método sin costura)

## Materiales

- *Bandana o pañuelo* (o cuadrado de algodón de aproximadamente 20 x20 pulgadas)
- Filtro para café
- Bandas elásticas (o cintas elásticas para el cabello)
- Tijeras (si va a cortar su propia tela)

## Tutorial





# COVID-19 AND FOOD SAFETY FAQ

## IS CORONAVIRUS AN ISSUE IN PRODUCE PRODUCTION?

CDC, FDA and USDA have no reports at this time of human illnesses that suggest coronavirus can be transmitted by food or food packaging. Research on similar viruses, such as SARS and influenza, show risk of transmission from food is very low. While information on if or how long virus persists on surfaces is minimal, risk of foodborne transmission is low and should not be of concern.

### WHAT STEPS DO I NEED TO TAKE TO CLEAN AND DISINFECT THE FACILITY/EQUIPMENT TO PREVENT THE SPREAD OF CORONAVIRUS?

- Disinfect high-touch surfaces-bins, baskets, harvesters, etc.-on a regular basis. CDC advises the use of disinfectants on the EPA recommended list found at: [go.ncsu.edu/epacovid-19](https://go.ncsu.edu/epacovid-19)
  - (Note: this list is based on current data, but most compounds have not been validated for inactivation of the virus causing COVID-19)
  - Bleach may be used to disinfect surfaces after they have been cleaned. The recommended concentration is higher than for everyday sanitation: 5 tablespoons bleach per gallon of water (1,000 ppm)

### WHAT SHOULD BE DONE IF A WORKER TESTS POSITIVE FOR COVID-19?

- Employers need to follow guidelines set by state and local authorities.
- If an employee is confirmed to have COVID-19, employers should inform fellow employees of their possible exposure to COVID-19 in the workplace but must adhere to HIPAA guidelines.
- Sick employees should follow the CDC recommendations and employers should consult with the local health department for additional guidance.

### SHOULD PRODUCE BE RECALLED IF HANDLED OR HARVESTED WHEN A WORKER WAS POTENTIALLY SHEDDING VIRUS?

- At the time of this writing, FDA stated they did not anticipate that food products would need to be recalled or be withdrawn from the market because of an employee ill due to COVID-19, as there is no evidence of illnesses resulting from virus transmission on food or food packaging.

### WHAT BEST PRACTICES SHOULD WORKERS FOLLOW TO PREVENT SPREAD OF CORONAVIRUS?

- **Workers should not report to work if they are displaying symptoms of COVID-19, or have come in contact with someone who is sick. Anyone displaying symptoms should be asked to leave.**
- As much as possible, have workers six feet apart during work and while on break.
- Provide handwashing stations and hand sanitizer. Workers should wash hands and/or use sanitizer before and after handling produce and packaging.
- Encourage good hygiene practices, like covering mouth and nose with a bent elbow when coughing or sneezing.
- Surgical masks are not necessary, as they are not protective to healthy people. They may help prevent ill individuals from shedding virus, but such people should be excluded from the facility.





# COVID-19 AND FOOD SAFETY FAQ

## IS CORONAVIRUS A FOOD SAFETY ISSUE?

CDC and USDA are not aware of any reports at this time of human illnesses that suggest COVID-19 can be transmitted by food or food packaging. However, it is always important to follow good hygiene practices (i.e., wash hands and surfaces often, separate raw meat from other foods, cook to the right temperature, and refrigerate foods promptly) when handling or preparing foods.

### IS FOOD IMPORTED FROM COUNTRIES AND STATES AFFECTED BY COVID-19 AT RISK OF SPREADING COVID-19?

- Currently, there is no evidence to support transmission of COVID-19 associated with imported goods and there are no reported cases of COVID-19 in the United States associated with imported goods.

### IF AN EMPLOYEE AT A FOOD ESTABLISHMENT BECAME INFECTED WITH CORONAVIRUS, WOULD THE FOOD PRODUCED AT THAT FACILITY BE SAFE TO EAT?

- Food establishment personnel who are ill with COVID-19 or any other illness should be excluded from work activities that could create unsanitary conditions (i.e. coughing or sneezing on product).
- COVID-19 is thought to spread mainly from person to person through respiratory droplets that can land in the mouths or noses of people who are nearby.

### CAN I GET SICK WITH COVID-19 FROM TOUCHING FOOD, THE FOOD PACKAGING, OR FOOD CONTACT SURFACES, IF THE CORONAVIRUS WAS PRESENT ON IT?

- Currently there is no evidence of food or food packaging being associated with transmission of COVID-19.
- Coronaviruses need a living host (animal or human) to grow in and cannot grow in food.
- Like other viruses, it is possible that the virus that causes COVID-19 can survive on surfaces or objects.

### HOW SHOULD FOOD BE HANDLED DURING THE COVID-19 PANDEMIC?

- As always, follow good hygiene and food safety practices when preparing food:
  - Purchase food from reputable sources
  - Cook food thoroughly and maintain safe holding temperatures
  - Use good personal hygiene
  - Clean and sanitize surfaces and equipment





# COVID-19 AND FOOD SAFETY FAQ

## IS CORONAVIRUS A CONCERN AT GROCERY STORES?

CDC, FDA and USDA are not aware of any reports at this time that suggest COVID-19 can be transmitted by food or food packaging. Current evidence shows the biggest risk of transmission of COVID-19 is being around individuals who are symptomatic (and to a lesser extent, infected but not showing symptoms.) Food businesses should be following employee health policies and local health department recommendations to keep these individuals home.

### CAN I GET SICK WITH COVID-19 FROM TOUCHING FOOD OR PACKAGING IF THE CORONAVIRUS WAS PRESENT ON IT?

- There is no indication that food packaging material has served in significant connection to virus transmission.
- If concerned, handling of food packaging can be followed with handwashing and/or using hand sanitizer.

### HOW SHOULD PRODUCE BE HANDLED?

- Consider using hand sanitizer before and after selecting produce items.
- Avoid touching multiple produce items when making selections.
- As per good food handling practices in general, wash hands before food preparation or eating, avoid touching the face and consider supplementing handwashing with the use of hand sanitizer.

### WHAT STEPS CAN I TAKE TO MINIMIZE RISK WHEN SHOPPING AT THE GROCERY STORE?

- Use hand sanitizer when entering stores, and wash hands and/or use sanitizer as soon as possible after leaving.
- Try to maintain social distancing as much as possible while shopping.
- Avoid touching surfaces or items unnecessarily and avoid touching your mouth, nose or face.
- **Do not go shopping when showing symptoms or think you have been exposed to the virus.**

### WHAT IS MY GROCERY STORE DOING TO MINIMIZE MY RISK?

- Many stores are following CDC guidelines on cleaning and disinfection. Some are limiting hours to allow for additional cleaning and disinfection.
- Stores may also be providing hand sanitizer to customers and be asking sick employees or customers to leave.





# COVID-19 PREVENTATIVE MEASURES

## HOMEMADE HAND SANITIZER

In the absence of the availability of commercial hand sanitizers, the World Health Organization recommends the following recipe for homemade hand sanitizer as part of their COVID-19 response.

These ingredients can typically be found at drugstores and some supermarkets.

### WHAT YOU NEED

- Small spray bottle
- 1 teaspoon of 3% hydrogen peroxide
- 1 tablespoon of 98% glycerin
- Isopropyl alcohol and sterile distilled or boiled cold water in **ONE** of the following combinations:
  - 1 cup + 2 tablespoons of 99% isopropyl alcohol **PLUS** 1/4 cup + 1 teaspoon water
  - 1 cup + 3 tablespoons of 91% isopropyl alcohol **PLUS** 2 tablespoons + 2 and 1/2 teaspoons water

### USING HAND SANITIZER

To use, spray on all surfaces of your hands and rub them together until they feel dry.



### WHAT TO DO

- 1** Pour alcohol into a medium container, ideally with a pouring spout
- 2** Add hydrogen peroxide, then glycerin and stir
- 3** Measure and add water
- 4** Sanitize spray bottles by adding in a small amount of leftover alcohol, swirling around and allowing to air dry
- 5** Fill bottle with solution and label clearly with contents.

These small quantity recipes are derived from WHO's Guide to Local Production: WHO-recommended Handrub Formulations







# COVID-19: MEDIDAS PREVENTIVAS

## DESINFECTANTE DE MANOS HECHO EN CASA

En ausencia de la disponibilidad de desinfectantes comerciales para manos, la Organización Mundial de la Salud recomienda la siguiente receta para la elaboración de desinfectante de manos hecho en casa para responder al COVID-19. Estos ingredientes generalmente pueden ser encontrados en farmacias y algunos supermercados.

### QUE NECESITA

- Botella pequeña de spray
- 1 cucharadita de peróxido de hidrógeno al 3%
- Una cucharada de Glicerina al 98%
- Alcohol isopropílico y agua estéril destilada (o agua fría hervida) en **UNA** de las siguientes combinaciones:
  - 1 taza + 2 cucharadas de alcohol isopropílico al 99% **MÁS** 1/4 taza + 1 cucharadita de agua
  - 1 taza + 3 cucharadas de alcohol isopropílico al 91% **MÁS** 2 cucharadas + 2 1/2 cucharaditas de agua

### USANDO EL DESINFECTANTE DE MANOS

Para usarlo rocié toda la superficie de sus manos y frótelas hasta que se sientan secas.



### QUE HACER

- 1** Vierta el alcohol en un recipiente mediano con boquilla
- 2** Agregue el peróxido de hidrógeno, la glicerina y mezcle
- 3** Mida y agregue el agua
- 4** Desinfecte las botellas, añadiendo un poco del alcohol que le sobra, gire la botella para que se cubra totalmente y déjela secar
- 5** Llene las botellas y etiquételas especificando claramente el contenido

Estas recetas se han derivado de la Guía para la Elaboración a Nivel Local: Formulaciones Recomendadas por la OMS para la Desinfección de las Manos

NC STATE

EXTENSION

Manténgase informado: [go.ncsu.edu/covid-19](https://go.ncsu.edu/covid-19)

[www.cdc.gov/coronavirus/2019-ncov](https://www.cdc.gov/coronavirus/2019-ncov)

Actualización: 17 de Marzo del 2020



NC STATE  
UNIVERSITY



# COVID-19: MEDIDAS PREVENTIVAS

## LIMPIANDO Y DESINFECTANDO

La evidencia actual sugiere que el nuevo coronavirus puede permanecer activo durante horas o días en superficies. La organización contra el control de enfermedades (CDC) recomienda limpiar y desinfectar todas las superficies como mejor medida para la prevención de COVID-19 y otras enfermedades respiratorias virales en hogares y entornos comunitarios.

### SUPERFICIES

- Limpie las superficies utilizando detergente o jabón y agua antes de desinfectar.
  - CDC recomienda utilizar soluciones de cloro o lejía doméstica, soluciones de alcohol con al menos 70% de alcohol, y productos de la lista recomendada por la EPA, que puede consultar aquí: [go.ncsu.edu/epacovid-19](http://go.ncsu.edu/epacovid-19)

### DILUYENDO LEJÍA/COLORO

- Siga las instrucciones del fabricante para la aplicación y ventilación adecuada.
- Prepare una solución de lejía (o cloro) mezclando:
  - 5 cucharadas (1/3 de taza) de cloro por galón de agua **●**
  - 4 cucharaditas de cloro por litro de agua
- Utilice cloro cuya botella no haya estado abierta por más de 30 días.

## LIMPIANDO DESPUÉS DE QUE UN INDIVIDUO HA SIDO INFECTADO

- Use guantes desechables mientras limpia y deséchelos después de limpiar. Siga el procedimiento sobre como remover los guantes para evitar contaminarse las manos ([go.ncsu.edu/cdcgloves](http://go.ncsu.edu/cdcgloves)). Lave sus manos después de quitarse los guantes.
- Limpie cualquier superficie porosa (alfombras, ropa, ropa de cama, etc.) con limpiadores apropiados y lave los artículos en la lavadora utilizando el agua más caliente que pueda. Seque las prendas completamente.
- No sacuda la ropa sucia. Esto minimizará la posibilidad de que el virus se propague en el aire. el virus a través del aire.





# COVID-19: MEDIDAS PREVENTIVAS

## ¿QUÉ HACER SI ESTÁ ENFERMO?

Si usted está enfermo con el COVID-19 o sospecha que está infectado con el virus que causa el COVID-19, siga estos pasos para ayudar a prevenir el contagio de la enfermedad a otros.

### BUSCANDO AYUDA MÉDICA

- Si usted cree que ha sido expuesto al COVID-19 y desarrolla fiebre y síntomas de enfermedad respiratoria como tos o dificultad al respirar, llame a su médico lo antes posible.
- Llame antes de ir al consultorio/ doctor para una cita médica. Esto ayudará a evitar que otros pacientes se expongan al virus.

### MANTÉNGASE ALEJADO DE OTROS

- Limite sus actividades fuera del hogar, excepto si va a buscar cuidado médico.
- Limite el contacto con sus mascotas y otros animales mientras esté enfermo con el COVID-19.
- Use una mascarilla médica cuando esté cerca de personas (sea compartiendo en el auto o habitación) o animales.

### EVITE INFECTAR A OTROS

- Cúbrase la boca y la nariz con una servilleta cuando tosa o estornude, o sino, tosa o estornude en la parte interior de su codo, cubriendo su boca y su nariz.
- Lávese las manos a menudo con agua y jabón por no menos de 20 segundos. Si no hay agua y jabón disponibles, use desinfectante de manos que contenga al menos 60% de alcohol.
- Evite compartir platos, tazas, vasos, utensilios, ropa de cama, etc. con otras personas y mascotas en su casa.





# COVID-19: MEDIDAS PREVENTIVAS

## COMO PREPARARSE CONTRA UN BROTE EN SU COMUNIDAD

Un brote de COVID-19 puede durar por mucho tiempo en su comunidad. Usted puede ayudar a proteger su salud y las de sus seres queridos al **crear un plan para su hogar** en caso de que haya un brote de COVID-19.



**Hable con aquellos que van a estar incluidos en su plan.** Reúnase con todos los que viven en su hogar, otros familiares y amigos para que hablen de las necesidades de cada uno.



**Planifique como van a cuidar de aquellos que pudieran estar en mayor riesgo,** incluyendo personas mayores o ancianos y personas con condiciones médicas crónicas.



**Conozca y hable con sus vecinos acerca de un plan de emergencia.** Así se pueden ayudar unos a otros. Únase a la página de Internet o redes sociales de su vecindad si tienen una.



**Identifique las organizaciones de ayuda en su comunidad** que pudieran darle la información correcta, servicios de salud, servicios de apoyo y otros recursos necesarios.



**Haga una lista de números de teléfono en caso de emergencia.** Incluya familiares, amigos, vecinos, sus médicos, hospitales, el departamento de salud local y otros números importantes para usted.



**Ponga en práctica acciones preventivas AHORA MISMO.** Esto incluye evitar contacto cercano con personas que están enfermas y si usted está enfermo quédese en casa. Cubra su boca cuando tosa o estornuda, limpie/desinfecte superficies que se tocan frecuentemente y lávese las manos.



**Escoja en su casa una habitación que se pueda usar para separar de los demás a aquellos que se enfermen.** Planifique como limpiar ese cuarto o cuartos cuando alguien caiga enfermo.



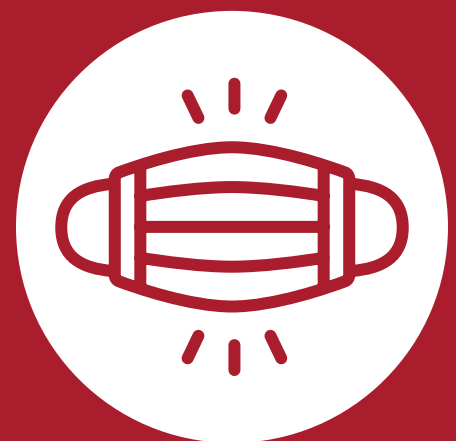
# HOW TO PRIORITIZE COVID-19 CONTROL STRATEGIES

## Understand How Roles Work Together

| What the Employee Can Do  | Prevention/<br>Mitigation Practice               | What the Employer Can Do   |
|---|--|--|
| Keep 6 ft. Apart  | Practice Social Distancing                       | Educate, Implement Strategies, Verify, Be an Example   |
| Self-evaluate, Report Onset, Stay Home if Present   | Screen for COVID-19 Symptoms*                    | Consider Routine Screening Questionnaire, Temperature Checks   |
| Practice  | Frequent Hand-washing                            | Educate, Provide, Verify Use, Be an Example  |
| Wear, Replace, Continue Social Distancing   | Wear Face Coverings                              | Educate, Provide, Verify Use, Be an Example, Reinforce Social Distancing                               |
| Avoid   | Avoid Touching Your Face                         | Educate, Reinforce, Be an Example  |
| Routinely Clean and Disinfect Frequently Touched Surfaces and Other High-risk Areas                   | Clean and Disinfect Frequently Touched Surfaces† | Provide PPE and Validated SOPs, Train, Verify  |
| Be Aware of Local Hotspots for Positive COVID-19 Cases, Continue Mitigation Practices Outside of Work | Minimize Community Spread                        | Be Aware of Local Hotspots for Positive COVID-19 Cases, Encourage Mitigation Practices Outside of Work |

\*COVID-19 Symptoms: Temperature >100.4°F, Cough, Difficulty Breathing, Loss of Taste & Smell, Chills

†This does not replace your established sanitation program.



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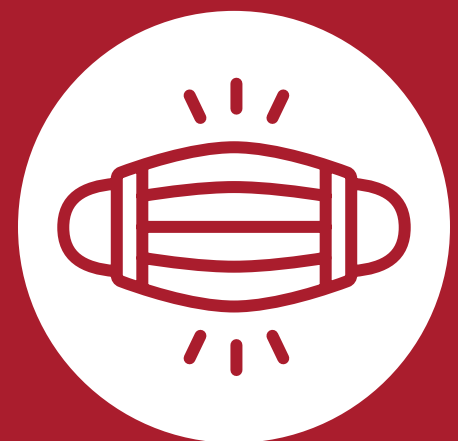
# COMO PRIORIZAR LAS ESTRATEGIAS DE CONTROL PARA EL COVID-19

## Comprenda Como Los Diferentes Roles Trabajan Juntos

| Lo que el empleado puede hacer   | Prevención/<br>Estrategias de control                      | Lo que el empleador puede hacer   |
|--|--|---|
| Mantenga 6 pies de distancia   | Practique el distanciamiento social                        | Educar, implementar estrategias, verificar, ser un ejemplo  |
| Autoevaluación, reporte aparición de síntomas, quedarse en casa si presenta  | Detección de síntomas de COVID-19*                         | Considerar cuestionario de detección de rutina, controles de temperatura  |
| Practicar  | Lavado frecuente de manos                                  | Educar, proporcionar, verificar el uso, ser un ejemplo  |
| Usar, reemplazar, continuar el distanciamiento social  | Use cobiertas faciales                                     | Educar, proporcionar, verificar el uso, ser un ejemplo, reforzar la distancia social  |
| Evitar   | Evite tocarse la cara                                      | Educar, reforzar, ser un ejemplo  |
| Limpie y desinfecte rutinariamente las superficies de contacto frecuente y otras áreas de alto riesgo                            | Limpiari y desinfectar superficies de contacto frecuente † | Proporcionar EPP y POE validados, capacitar, verificar  |
| Tenga en cuenta los puntos críticos de contagio locales del COVID-19, continúe con las prácticas de prevención fuera del trabajo | Minimizar la propagación de la comunidad                   | Tenga en cuenta los puntos críticos de contagio locales del COVID-19, fomente las prácticas de prevención fuera del trabajo |

\*Síntomas de COVID-19: temperatura >100.4°F, tos, dificultad respiratoria, pérdida de sabor y olor, escalofríos

†Esto no reemplaza su programa de saneamiento establecido.



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# COVID-19 PREVENTATIVE MEASURES


## CLEAN YOUR HANDS OFTEN


The best way to prevent illness is to avoid being exposed to this virus. Washing your hands is easy, and it's one of the most effective ways to prevent the spread of COVID-19.


### HANDWASHING STEPS

**1** Wet your hands with clean, running water 

**2** Apply soap 

**3** Lather and scrub your hands for at least 20 seconds 

**4** Rinse your hands well under clean, running water 

**5** Dry your hands using a clean towel or air dry them 

### WHEN TO WASH HANDS

- After blowing your nose, coughing, or sneezing
- Before and after caring for someone that is sick
- After going to the bathroom
- Before and after preparing food
- During food preparation as needed
- Before eating food
- Before putting on a face covering and after removing/handling a used face covering

### HAND SANITIZER

If soap and water are not readily available, use an alcohol-based hand sanitizer with at least 60% alcohol, cover all surfaces of your hands and rub them together until they feel dry.







# COVID-19: MEDIDAS PREVENTIVAS


## LÁVESE LAS MANOS FRECUENTEMENTE


La mejor manera de prevenir la enfermedad es evitar exponerse a este virus. Lo más fácil es lavarse las manos, y también es una de las maneras más efectivas de prevenir el contagio del COVID-19.


### PASOS PARA LAVARSE LAS MANOS

**1** Mójese las manos con agua limpia 

**2** Póngase jabón en las manos 

**3** Enjabone sus manos bien durante al menos 20 segundos 

**4** Enjuáguese bien las manos con agua limpia 

**5** Séqueselas con una toalla limpia o con un secador de manos de baño 

### ¿CUÁNDO LAVARSE LAS MANOS?

- Después que se toque o limpie la nariz, tosa o estornude
- Antes y después de cuidar a alguien que está enfermo
- Después de ir al baño
- Antes y después de preparar comida
- Durante la preparación de la comida si es necesario
- Antes de comer

### DESINFECTANTE DE MANOS

Si no hay agua y jabón para lavarse las manos, use desinfectante de manos que contenga al menos 60% de alcohol. Cubra las manos completamente con el desinfectante y frótelas hasta que se sientan secas.







# COVID-19 PREVENTATIVE MEASURES

## BLEACH AS A DISINFECTANT



### **Unexpired household bleach are effective against coronaviruses when properly diluted**

- Check the label to see if your bleach is intended for disinfection
- Ideally use containers of bleach that have been open no longer than 30 days
- To make a bleach solution, mix:
  - 5 tablespoons (1/3rd cup) bleach per gallon of water **OR**
  - 4 teaspoons bleach per quart of water
- Leave solution on the surface for at least 1 minute
- Never mix household bleach with ammonia or any other cleanser



# COVID-19 PREVENTATIVE MEASURES

## HOW TO CLEAN AND DISINFECT SOFT SURFACES



### FOR SOFT SURFACES SUCH AS CARPETED FLOOR, UPHOLSTERED FURNITURE, RUGS AND DRAPES

- Clean the surface using soap and water or with cleaners appropriate for use on these surfaces.
- Launder items (if possible) according to the manufacturer's instructions. Use the warmest appropriate water setting and dry items completely.

### OR

- Disinfect with an EPA-registered household disinfectant, found here:  
[go.ncsu.edu/epacovid-19](https://go.ncsu.edu/epacovid-19)



## **NJFC SAFE SHOPPING TIPS FOR CUSTOMERS**

We are providing the best practical guidelines to keep shoppers and grocery store workers safe during the COVID-19 crisis. Please use these helpful Safe Shopping Tips that include several new government mandates.

### **1. Limit going to the grocery store only when it is essential and focus on buying what you need.**

Coronavirus has upended our daily lives and the usual grocery store trips are a luxury. As experts advise the general public to stay home, it is important that customers limit their trips to the store as much as possible. When you do shop, buy what you need most. There is no need to stockpile items. Buying enough for one week is advisable. If everybody maintains normal shopping patterns, the food supply will replenish.

### **2. Shoppers must now wear cloth face coverings.**

It is now a NJ mandate by Governor Phil Murphy that all customers wear cloth face coverings to enter a store. Please note that these coverings can be made from everyday household items such as a scarf, bandana, or t-shirt. Here's an easy how-to [video](#). Reserve N95 masks for frontline workers.

### **3. Reduce store crowding by shopping alone.**

Some of us really enjoy going to the grocery store with our spouse or families, but to keep everyone safe, shop alone if you can. By reducing capacity, it is easier to maintain less crowded aisles and safe social distancing between customers.

### **4. Practice safe social distancing throughout the store even at checkout.**

Six feet is the safe distance to help prevent the spread of coronavirus. An average grocery cart is three feet long, so always keep two grocery carts apart between you and others. Although checkout signifies the end of your trip, it is still important that you maintain six feet or two shopping carts of space between you and someone else. To protect everyone's wellbeing, please wait until a customer finishes loading their groceries and exits the line.

### **5. Avoid handling any items in the store, unless it's for purchase. Use your eyes to inspect, not your hands.**

Habits are hard to break but avoiding the handling of products at the store helps prevent the spread of the virus. Do your part and try not to pick up items unless you plan to buy them. This also applies to produce items. We recommend using a produce bag to make your selection. Let your eyes do the shopping.

**6. When using personal protective equipment (PPE) such as gloves, wipes, or disposable face coverings please discard responsibly.**

Since customers are mandated to wear facial coverings and are using PPE for added safety, it is important to dispose of gloves, masks and wipes properly. Please do not leave these soiled items in your cart or in the parking lot. Mishandling these items can create more safety concerns for employees and other customers. Trash cans are placed conveniently outside the store for your disposal. Moreover, refrain from disposing flushable wipes in the store restrooms.

**7. Keep your reusable grocery bags at home until this health crisis is over or thoroughly disinfect after each use.**

For the safety of both customers and employees, do not use reusable bags unless you know how to thoroughly disinfect them. Studies have shown that the virus can live on certain surfaces for an extended period. Using bags that are kept in an individual's home or car for repeat use could increase the risk of infection. You might be asked to bag your own groceries depending on the store's temporary policies with reusable bags.

**8. Check your local store's special hours or new procedures.**

To ensure the safest shopping experience, grocers are adapting special hours and accommodations. Check their websites, social media pages, or call ahead to confirm.

**9. Be patient and allot more time to shop.**

New mandates have created crowd control policies that potentially slow down a normal shopping experience. Be cognizant of this and be prepared with extra time in case it is needed to shop.

**10. Treat employees with respect and kindness.**

As NJ Governor Phil Murphy has [stated](#), grocery store workers are “mission critical” during this crisis. They are working on the frontline to ensure everyone always has access to food and supplies. Be understanding of the extra work being provided to make sure a store is sanitized and ready to feed your families.

*These simple tips will help provide for a more pleasant shopping experience!*

Contact NJFC for more information:



New Jersey Food Council  
429 Riverview Plaza  
Trenton, NJ 08611  
609-392-8899

[njfc@njfoodcouncil.com](mailto:njfc@njfoodcouncil.com) – 4/9/20

# PROTECCIÓN AGRÍCOLA FRENTE AL CORONAVIRUS

Por E. Vanessa Campoverde. Editado por J. Gómez, L. Valencia & F. Rivera  
Agentes de Extensión de la Universidad de Florida

Recomendaciones para la protección de trabajadores agrícolas durante la pandemia del Coronavirus (COVID-19)

## HABLEMOS DEL VIRUS



Conversar con los empleados de los síntomas comunes y prevención de esta enfermedad causada por el virus COVID-19  
Alentar a empleados a hacer preguntas  
Compartir información en las áreas de uso común de los empleados (Ejemplo: descanso, baños)

### Síntomas:

- Fiebre, tos, dificultad al respirar
- Síntomas pueden variar. La infección viral puede ser asintomática (no hay síntomas) en una persona hasta ser extrema en otra, incluso puede causar la muerte.

## COMO SE MUEVE EL VIRUS EN LA FINCA

El tiempo de incubación varía de 2 a 14 días

El virus puede dispersarse de persona a persona por:

- Entre personas que están en contacto cercano o
- Cuando una persona infectada tose, estornuda, o habla

Una persona también puede infectarse al tocar un objeto o superficie contaminada, y luego tocarse los ojos, la nariz o la boca.



## PREVENIR ANTES QUE LAMENTAR



El virus (COVID-19) NO tiene vacuna  
Si es posible, permitir que algunos empleados trabajen desde casa (contador, secretaria)

En el caso de los empleados esenciales (agricultor, scouter de plagas):

- Promover el **distanciamiento social** (6 pies o 2 metros) entre individuos
- Promover que se cubran al toser o estornudar
- Comunicar a los empleados de quedarse en casa si están enfermos
- Posponer reuniones en la finca hasta nuevo aviso.

## ESTACIÓN DE LAVADO DE MANOS

- Establecer limpieza y desinfección rutinaria en el trabajo
- Establecer las estaciones de sanidad en cada finca
- Lavar las manos constantemente con agua y jabón al menos por 20 segundos.



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### REFERENCIAS:

<https://www.cdc.gov/coronavirus/2019-ncov/prepare/prevention.html>

<https://www.dir.ca.gov/dosh/Coronavirus/CoronaTri-GISO-03.16.2020-ADA.pdf>

<https://www.who.int/docs/default-source/coronaviruse/advice-for-workplace-clean-19-03-2020.pdf>

# COVID-19 PREVENTATIVE MEASURES

## CLEANING AND DISINFECTION

Current evidence suggests that novel coronavirus may remain viable for hours to days on surfaces. Cleaning followed by disinfection is recommended by the CDC as a best practice measure for prevention of COVID-19 and other viral respiratory illnesses in households and community settings.

### SURFACES

- Clean surfaces using a detergent or soap and water prior to disinfection.
- CDC recommends diluted household bleach solutions, alcohol solutions with at least 70% alcohol, and compounds on the EPA-recommended list, found here: [go.ncsu.edu/epacovid-19](http://go.ncsu.edu/epacovid-19).
  - Note: this list is based on current data, but compounds have not been validated for COVID-19)

### DILUTING BLEACH

- Follow manufacturer's instructions for application and proper ventilation.
- Prepare a bleach solution by mixing:
  - 5 tablespoons (1/3 cup) bleach per gallon of water **OR**
  - 4 teaspoons bleach per quart of water
- Use containers of bleach that have been opened no longer than 30 days.

## IF CLEANING UP AFTER AN INFECTED INDIVIDUAL

- Wear disposable gloves while cleaning and discard after cleaning. Follow glove removal procedure to avoid contaminating hands ([go.ncsu.edu/cdcgloves](http://go.ncsu.edu/cdcgloves)). Wash your hands after removing gloves.
- Clean any porous surfaces (carpets, clothing, linens, etc.) with appropriate cleaners and/or launder items using the warmest appropriate water setting. Dry completely.
- Do not shake dirty laundry. This will minimize the possibility of spreading virus through the air.

For more info, visit: [www.cdc.gov/coronavirus/2019-ncov](http://www.cdc.gov/coronavirus/2019-ncov)

**Contact:** Michelle Danyluk  
[mddanyluk@ufl.edu](mailto:mddanyluk@ufl.edu) 863.956.8654

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**NC STATE**  
EXTENSION



## Guide to Local Production: WHO-recommended Handrub Formulations

**Introduction:** This Guide to Local Production of WHO-recommended Handrub Formulations is separated into two discrete but interrelated sections:

**Part A** provides a practical guide for use at the pharmacy bench during the actual preparation of the formulation. Users may want to display the material on the wall of the production unit.

**Part B** summarizes some essential background technical information and is taken from WHO Guidelines on Hand Hygiene in Health Care (2009). Within Part B the user has access to important safety and cost information and supplementary material relating to dispensers and distribution.



## PART A: GUIDE TO LOCAL PRODUCTION

Part A is intended to guide a local producer in the actual preparation of the formulation.

### Materials required (small volume production)

| REAGENTS FOR FORMULATION 1:   | REAGENTS FOR FORMULATION 2:   |
|---|---|
| <ul style="list-style-type: none"> <li>Ethanol 96%</li> <li>Hydrogen peroxide 3%</li> <li>Glycerol 98%</li> <li>Sterile distilled or boiled cold water</li> </ul> | <ul style="list-style-type: none"> <li>Isopropyl alcohol 99.8%</li> <li>Hydrogen peroxide 3%</li> <li>Glycerol 98%</li> <li>Sterile distilled or boiled cold water</li> </ul> |

- 10-litre glass or plastic bottles with screw-threaded stoppers ( 1 ), or
- 50-litre plastic tanks (preferably in polypropylene or high density polyethylene, translucent so as to see the liquid level) ( 2 ), or
- Stainless steel tanks with a capacity of 80–100 litres (for mixing without overflowing) ( 3 , 4 )
- Wooden, plastic or metal paddles for mixing ( 5 )
- Measuring cylinders and measuring jugs ( 6 , 7 )
- Plastic or metal funnel
- 100 ml plastic bottles with leak-proof tops ( 8 )
- 500 ml glass or plastic bottles with screw tops ( 8 )
- An alcoholometer: the temperature scale is at the bottom and the ethanol concentration (percentage v/v) at the top ( 9 , 10 , 11 )



#### NOTE

- Glycerol: used as humectant, but other emollients may be used for skin care, provided that they are cheap, widely available and miscible in water and alcohol and do not add to toxicity, or promote allergy.
- Hydrogen peroxide: used to inactivate contaminating bacterial spores in the solution and is not an active substance for hand antisepsis.
- Any further additive to both formulations should be clearly labelled and be non-toxic in case of accidental ingestion.
- A colorant may be added to allow differentiation from other fluids, but should not add to toxicity, promote allergy, or interfere with antimicrobial properties. The addition of perfumes or dyes is not recommended due to risk of allergic reactions.



## METHOD: 10-LITRE PREPARATIONS

These can be prepared in 10-litre glass or plastic bottles with screw-threaded stoppers.

### Recommended amounts of products:

| FORMULATION 1   | FORMULATION 2   |
|---|---|
| <ul style="list-style-type: none"> <li>Ethanol 96%: <b>8333 ml</b></li> <li>Hydrogen peroxide 3%: <b>417 ml</b></li> <li>Glycerol 98%: <b>145 ml</b></li> </ul> | <ul style="list-style-type: none"> <li>Isopropyl alcohol 99.8%: <b>7515 ml</b></li> <li>Hydrogen peroxide 3%: <b>417 ml</b></li> <li>Glycerol 98%: <b>145 ml</b></li> </ul> |

### Step by step preparation:



1. The alcohol for the formula to be used is poured into the large bottle or tank up to the graduated mark.



4. The bottle/tank is then topped up to the 10-litre mark with sterile distilled or cold boiled water.

5. The lid or the screw cap is placed on the tank/bottle as soon as possible after preparation, in order to prevent evaporation.



2. Hydrogen peroxide is added using the measuring cylinder.



6. The solution is mixed by shaking gently where appropriate or by using a paddle.



3. Glycerol is added using a measuring cylinder. As glycerol is very viscous and sticks to the wall of the measuring cylinder, it should be rinsed with some sterile distilled or cold boiled water and then emptied into the bottle/tank.



7. Immediately divide up the solution into its final containers (e.g. 500 or 100 ml plastic bottles), and place the bottles in quarantine for 72 hours before use. This allows time for any spores present in the alcohol or the new/re-used bottles to be destroyed.

## Final products

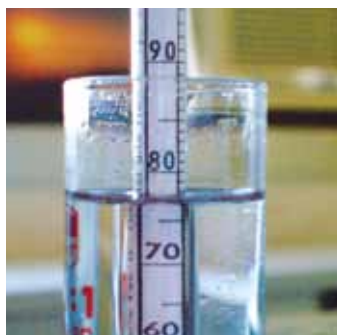
| FORMULATION 1  | FORMULATION 2  |
|--|--|
| <b>Final concentrations:</b> <ul style="list-style-type: none"> <li>Ethanol 80% (v/v),</li> <li>Glycerol 1.45% (v/v),</li> <li>Hydrogen peroxide 0.125% (v/v)</li> </ul> | <b>Final concentrations:</b> <ul style="list-style-type: none"> <li>Isopropyl alcohol 75% (v/v),</li> <li>Glycerol 1.45% (v/v),</li> <li>Hydrogen peroxide 0.125% (v/v)</li> </ul> |

## Quality control

1. Pre-production analysis should be made every time an analysis certificate is not available to guarantee the titration of alcohol (i.e. local production). Verify the alcohol concentration with the alcoholmeter and make the necessary adjustments in volume in the preparation formulation to obtain the final recommended concentration.



2. Post-production analysis is mandatory if either ethanol or an isopropanol solution is used. Use the alcoholmeter to control the alcohol concentration of the final use solution. The accepted limits should be fixed to  $\pm 5\%$  of the target concentration (75%–85% for ethanol).



3. The alcoholmeter shown in this information pamphlet is for use with ethanol; if used to control an isopropanol solution, a 75% solution will show 77% ( $\pm 1\%$ ) on the scale at 25°C.

## General information

Labelling should be in accordance with national guidelines and should include the following:

- Name of institution
- WHO-recommended handrub formulation
- For external use only
- Avoid contact with eyes
- Keep out of the reach of children
- Date of production and batch number
- Use: Apply a palmful of alcohol-based handrub and cover all surfaces of the hands. Rub hands until dry
- Composition: ethanol or isopropanol, glycerol and hydrogen peroxide
- Flammable: keep away from flame and heat

## Production and storage facilities:

- Production and storage facilities should ideally be air conditioned or cool rooms. No naked flames or smoking should be permitted in these areas.
- WHO-recommended handrub formulations should not be produced in quantities exceeding 50-litres locally or in central pharmacies lacking specialised air conditioning and ventilation.
- Since undiluted ethanol is highly flammable and may ignite at temperatures as low as 10°C, production facilities should directly dilute it to the above-mentioned concentration. The flashpoints of ethanol 80% (v/v) and of isopropyl alcohol 75% (v/v) are 17.5°C and 19°C, respectively.
- National safety guidelines and local legal requirements must be adhered to the storage of ingredients and the final product.
- Additional safety information is presented in Part B of this Guide.

## PART B: SUPPLEMENTARY TECHNICAL, SAFETY AND COST INFORMATION:

*Part B contains important safety and cost information and incorporates information from the WHO Guidelines on Hand Hygiene in Health Care (2009).*

### The case for alcohol-based handrubs in health care

At present, alcohol-based handrubs are the only known means for rapidly and effectively inactivating a wide array of potentially harmful microorganisms on hands.

#### WHO recommends alcohol-based handrubs based on the following factors:

1. Evidence-based, intrinsic advantages of fast-acting and broad-spectrum microbicidal activity with a minimal risk of generating resistance to antimicrobial agents;
2. Suitability for use in resource-limited or remote areas with lack of accessibility to sinks or other facilities for hand hygiene (including clean water, towels, etc.);
3. Capacity to promote improved compliance with hand hygiene by making the process faster, more convenient and immediately accessible at the point of patient care;
4. Economic benefit by reducing annual costs for hand hygiene, representing approximately 1% of extra-costs generated by health care-associated infection
5. Minimization of risks from adverse events because of increased safety associated with better acceptability and tolerance than other products.

(Source: WHO Guidelines on Hand Hygiene in Health Care 2009)

### Background to WHO alcohol-based handrub formulations

According to the available evidence on efficacy, tolerability and cost-effectiveness, WHO recommends using an alcohol-based handrub for routine hand antisepsis in most clinical situations. Health-care facilities currently using commercially-available handrubs, liquid soaps and skin care products sold in disposable containers should continue this practice, provided that the handrubs meet recognised standards for microbicidal efficacy (ASTM or EN standards) and are well accepted/tolerated by the health-care workers. It is obvious that these products should be regarded as acceptable, even if their contents differ from those of WHO-recommended formulations described within this document. WHO recommends the local production of the following formulations as an alternative when suitable commercial products are either unavailable or too costly.

To help countries and health-care facilities to achieve system change and adopt alcohol-based handrubs, WHO has identified formulations for their local preparation. Logistic, economic, safety, cultural and religious factors have all been carefully considered by WHO before recommending such formulations for use worldwide.

### Efficacy

It is the consensus opinion of a WHO expert group that WHO-recommended handrub formulations can be used both for hygienic hand antisepsis and for presurgical hand preparation.

### Hygienic handrub

The microbicidal activity of the two WHO-recommended formulations was tested by WHO reference laboratories according to EN standards (EN 1500). Their activity was found to be equivalent to the reference substance (isopropanol 60% v/v) for hygienic hand antisepsis.

### Presurgical hand preparation

Both WHO-recommended handrub formulations were tested by two independent reference laboratories in different European countries to assess their suitability for use for pre-surgical hand preparation, according to the European Standard EN 12791. Although formulation I did not pass the test in both laboratories and formulation II in only one of them, the expert group is, nevertheless, of the opinion that the microbicidal activity of surgical antisepsis is still an ongoing issue for research as due to the lack of epidemiological data there is no indication that the efficacy of n-propanol (propan-1-ol) 60% v/v as a reference in EN 12791 finds a clinical correlate. It is the consensus opinion of a WHO expert group that the choice of n-propanol is inappropriate as the reference alcohol for the validation process because of its safety profile and the lack of evidence-based studies related to its potential harmfulness for humans. Indeed, only a few formulations worldwide have incorporated n-propanol for hand antisepsis.

Considering that other properties of WHO recommended formulations, such as their excellent tolerability, good acceptance by health-care workers and low cost are of high importance for a sustained clinical effect, the above results are considered acceptable and it is the consensus opinion of a WHO expert group that the two formulations can be used for surgical hand preparation. Institutions opting to use WHO-recommended formulations for surgical hand preparation should ensure that a minimum of three applications are used, if not more, for a period of 3–5 minutes. For surgical procedures of more than 2 hours duration, ideally surgeons should practise a second handrub of approximately 1 minute, even though more research is needed on this aspect.

### Key lessons learned from around the world

Many settings around the world successfully undertook local production of the two WHO-recommended formulations. Throughout Part B, additional information is presented where relevant, in table form, based on feedback from 11 sites located in Bangladesh, Costa Rica, Egypt, Hong Kong SAR, Kenya, Mali, Mongolia, Pakistan (two sites), Saudi Arabia, and Spain. Further, detailed information is available within the WHO Guidelines on Hand Hygiene in Health Care (2009)

## Composition of alcohol-based formulations for in-house/local production

The choice of components for WHO handrubs takes into account both cost constraints and microbiological efficacy. The procurement of raw ingredients will be influenced by the availability of sub-standard materials on the market and it is important to select local sources with care.

The following two alcohol-based handrub formulations are recommended for preparation in-house or in a local production facility, up to a maximum of 50 litres:

### Formulation 1

To produce final concentrations of ethanol 80% v/v, glycerol 1.45% v/v, hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) 0.125% v/v.

### Formulation 2

To produce final concentrations of isopropyl alcohol 75% v/v, glycerol 1.45% v/v, hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) 0.125% v/v:

Only pharmacopoeial quality reagents should be used (e.g. The International Pharmacopoeia) and not technical grade products.

## Raw materials:

While alcohol is the active component in the formulations, certain aspects of other components should be respected. All raw materials used should be preferably free of viable bacterial spores. The raw materials for inclusion/consideration are listed in the table below:

|  |   |
|--|---|
| <b>H<sub>2</sub>O<sub>2</sub></b>                  | <ul style="list-style-type: none"> <li>The low concentration of H<sub>2</sub>O<sub>2</sub> is intended to help eliminate contaminating spores in the bulk solutions and recipients and is not an active substance for hand antisepsis.</li> <li>H<sub>2</sub>O<sub>2</sub> adds an important safety aspect, however the use of 3–6% for the production might be complicated by its corrosive nature and by difficult procurement in some countries.</li> <li>Further investigation is needed to assess H<sub>2</sub>O<sub>2</sub> availability in different countries as well as the possibility of using a stock solution with a lower concentration.</li> </ul> |
| <b>Glycerol and other humectants or emollients</b> | <ul style="list-style-type: none"> <li>Glycerol is added as a humectant to increase the acceptability of the product.</li> <li>Other humectants or emollients may be used for skin care, provided that they are affordable, available locally, miscible (mixable) in water and alcohol, non-toxic, and hypoallergenic.</li> <li>Glycerol has been chosen because it is safe and relatively inexpensive. Lowering the percentage of glycerol may be considered to further reduce stickiness of the handrub.</li> </ul>   |
| <b>Use of proper water</b>                         | <ul style="list-style-type: none"> <li>While sterile distilled water is preferred for making the formulations, boiled and cooled tap water may also be used as long as it is free of visible particules.</li> </ul>   |
| <b>Addition of other additives</b>                 | <ul style="list-style-type: none"> <li>It is strongly recommended that no ingredients other than those specified here be added to the formulations.</li> <li>In the case of any additions, full justification must be provided together with documented safety of the additive, its compatibility with the other ingredients, and all relevant details should be given on the product label.</li> </ul>   |
| <b>Gelling agents</b>                              | <ul style="list-style-type: none"> <li>No data are available to assess the suitability of adding gelling agents to WHO-recommended liquid formulations, but this could increase potentially both production difficulties and costs, and may compromise antimicrobial efficacy.</li> </ul>   |
| <b>Fragrances</b>                                  | <ul style="list-style-type: none"> <li>The addition of fragrances is not recommended because of the risk of allergic reactions.</li> </ul>  |

All handrub containers must be labelled in accordance with national and international guidelines.

| Procurement of components: key learning from around the world (based on feedback from the field) |  |
|--|--|
| <b>Ethanol</b>   | Easier to procure from local suppliers due to cost in some countries. <ul style="list-style-type: none"> <li>• Can be derived from sugar cane or wheat.</li> <li>• Subject to licensing restrictions and strict record-keeping – an important consideration prior to embarking on production.</li> </ul> |
| <b>Isopropyl</b>   | Easier to procure in some countries.   |
| <b>Glycerol</b>  | Produced by local suppliers in most cases.   |
| <b>Hydrogen peroxide</b>   | Difficulties sourcing satisfactory H <sub>2</sub> O <sub>2</sub> resulted in the need to import in five sites.   |

### Production and storage

Manufacture of WHO-recommended handrub formulations is feasible in central pharmacies or dispensaries. Whenever possible and according to local policies, governments should encourage local production, support the quality assessment process, and keep production costs as low as possible. Special requirements apply for the production and stock piling of the formulations, as well as for the storage of the raw materials.

Because undiluted ethanol is highly flammable and may ignite at temperatures as low as 10°C, production facilities should directly dilute it to the concentrations detailed within this guide. (Refer to *Summary table of risks and mitigation measures concerning the use of alcohol-based hand hygiene preparations*)

WHO is exploring the development of additional guidance on large-scale production to facilitate scale-up.

| Production facilities and personnel: key learning from around the world (based on feedback from the field) |   |
|--|---|
| <b>Who are the main producers?</b>   | <ul style="list-style-type: none"> <li>• Qualified pharmacists.</li> </ul>  |
| <b>How much is produced?</b>   | <ul style="list-style-type: none"> <li>• 10 litres to 600,000 litres per month was produced in test-sites.</li> </ul>   |
| <b>Where does production occur?</b>  | <ul style="list-style-type: none"> <li>• Hospital pharmacy.</li> <li>• National drug companies.</li> </ul>  |
| <b>Production equipment</b>  | <ul style="list-style-type: none"> <li>• Plastic, stainless steel and glass containers were used for mixing.</li> </ul>   |
| <b>Dispensers for final product</b>  | <ul style="list-style-type: none"> <li>• Ranges used:                             <ul style="list-style-type: none"> <li>– 100 ml pocket bottles</li> <li>– 385 ml bottles</li> <li>– 500 ml wall-mounted dispensers</li> <li>– 1 litre wall mounted bottles or bags</li> </ul> </li> </ul> |
| <b>Sources of dispensers</b>   | <ul style="list-style-type: none"> <li>• Local sourcing can prove problematic, some countries had success working with local private sector suppliers.</li> </ul>   |

### Storage volumes:

Special requirements are applicable for the production and storage of the formulations, as well as the storage of the primary products. The quantity of locally-produced WHO handrub should not exceed 50 litres, or possibly less if regulated by local and/or national guidelines and regulations.

### Cleansing and disinfection process for reusable handrub bottles:

1. Bring empty bottles to a central point for reprocessing by standard operational protocols;
2. Wash bottles thoroughly with detergent and tap water to eliminate any residual liquid;
3. If heat-resistant, thermally disinfect bottles by boiling in water. Whenever possible, thermal disinfection should be chosen in preference to chemical disinfection. The latter may increase costs and introduces an extra step to flush out the remains of the disinfectant. Chemical disinfection should include soaking the bottles in a solution containing 1000 ppm of chlorine for a minimum of 15 minutes and then rinsing with sterile/cooled boiled water;
4. After thermal or chemical disinfection, leave bottles to dry completely upside-down in a bottle rack. Dry bottles should be closed with a lid and stored, protected from dust, until use.

### Quality Control:

If concentrated alcohol is obtained from local production, verify the alcohol concentration and make the necessary adjustments in volume to obtain the final recommended concentration. An alcoholmeter can be used to control the alcohol concentration of the final use solution; H<sub>2</sub>O<sub>2</sub> concentration can be measured by titrimetry (oxydo-reduction reaction by iodine in acidic conditions). A higher level quality control can be performed using gas chromatography and the titrimetric method to control the alcohol and the hydrogen peroxide content, respectively. Moreover, the absence of microbial contamination (including spores) can be checked by filtration, according to the European Pharmacopeia specifications.

| Quality control: key learning from around the world (based on feedback from the field) |  |
|--|--|
| <b>Method</b>  | <ul style="list-style-type: none"> <li>• Local alcoholmeters used in majority of sites.</li> <li>• Seven sites sent samples to the University of Geneva Hospitals, Geneva, Switzerland, for quality checks by gas chromatography and the titrimetric method to control the alcohol and the hydrogen peroxide content.</li> </ul> |
| <b>Addition of fragrance</b>   | <ul style="list-style-type: none"> <li>• Quality was optimal for three formulations in which either a fragrance or special humectants were added to WHO formulation I.</li> </ul>  |
| <b>Extremes of climate</b>   | <ul style="list-style-type: none"> <li>• Samples from Mali, which were kept in a tropical climate without air conditioning or special ventilation, were in accordance with the optimal quality parameters in all samples up to 19 months after production.</li> </ul>  |

## Distribution

To avoid contamination with spore-forming organisms, disposable bottles should preferably be used although reusable sterilizable bottles may reduce production costs and waste management. To prevent evaporation, containers should have a maximum capacity of 500 ml on ward and 1 litre in operating theatres, and ideally fit into a wall dispenser. Leakage-free pocket bottles with a capacity of no more than 100 ml should also be available and distributed individually to health-care workers, but it should be emphasized that the use of these products should be confined to health care only. The production or re-filling unit should follow norms on how to clean and disinfect the bottles (e.g. autoclaving, boiling, or chemical disinfection with chlorine). Autoclaving is considered the most suitable procedure. Reusable bottles should never be refilled until they have been completely emptied and then cleansed and disinfected.

### Cleaning and recycling: key learning from around the world (based on feedback from the field)

|   |  |
|---|--|
| <b>Cleaning and recycling of dispensers</b> | <ul style="list-style-type: none"> <li>The cleaning and recycling process outlined in this document was applied in six sites. Methods used for disinfection varied and included treatment with chlorine or alcohol.</li> </ul> |
|---|--|

## Cost issues:

The costs of WHO handrub formulations may vary according to country, resources and labour costs; studies to evaluate costs and resource use are necessary. As a comparison, examples of actual prices of commercially available alcohol-based handrubs in different countries are detailed within the Guidelines.

### Costs: Key learning from around the world (based on feedback from the field)

|  |   |
|--|---|
| <b>Production cost (including salaries but not the dispenser) per 100 ml</b> | Formulation 1: <ul style="list-style-type: none"> <li>US\$ 0.37 (Kenya)</li> <li>US\$ 0.30 (Mali)</li> </ul> Formulation 2: <ul style="list-style-type: none"> <li>US\$ 0.30 (Bangladesh).</li> </ul> |
| <b>Production cost (including the pocket bottle) per 100 ml</b>              | Formulation 1: <ul style="list-style-type: none"> <li>US\$ 0.50 (Hong Kong)</li> </ul> Formulation 2: <ul style="list-style-type: none"> <li>US\$ 0.44 (Pakistan)</li> </ul>                          |
| <b>Range of cost of commercially available products per 100 ml</b>           | <ul style="list-style-type: none"> <li>US\$ 2.50–5.40 (liquid)</li> <li>US\$ 8 (gel)</li> </ul>   |

## Safety Standards

With regard to skin reactions, handrubbing with alcohol based solutions is better tolerated than handwashing with soap and water. In a recent study conducted among ICU health-care workers, the short-term skin tolerability and acceptability of WHO-recommended handrub formulations were significantly higher than those of a reference product. Any additive should be as non-toxic as possible in case of accidental or intentional ingestion.

## General Safety Issues:

The main safety issues relate to the flammability of alcohol-based handrubs and the adverse effects associated with accidental or deliberate ingestion. These are summarised in the *Summary table of risks and mitigation measures concerning the use of alcohol-based hand hygiene preparations*.

## Flammability – Flash-points:

The flash points of ethanol 80% (v/v) and isopropyl alcohol 75% (v/v) are 17.5°C and 19°C, respectively, and special attention should be given to proper storage in tropical climates. Production and storage facilities should be ideally air-conditioned or cool rooms. Open flames and smoking must be strictly prohibited in production and storage areas. Pharmacies and small-scale production centres supplying WHO-recommended handrub formulations are advised not to manufacture locally batches of more than 50 litres at a time.

## Accidental ingestion:

In general, it is not recommended to add any bittering agents to reduce the risk of ingestion of the handrubs. Nevertheless, in exceptional cases where the risk of ingestion might be very high (paediatric or confused patients), substances such as methylethylketone and denatonium benzoate, added to some household products to make them less palatable, may be added to alcohol-based handrubs in order to reduce the risk of accidental or deliberate ingestion. However, there is no published information on the compatibility and deterrent potential of such chemicals when used in alcohol-based handrubs to discourage their abuse. It is important to note that such additives may make the products toxic and add to production costs. In addition, the bitter taste may be transferred from hands to food being handled by individuals using handrubs containing such agents. Therefore, compatibility and suitability, as well as cost, must be carefully considered before deciding on the use of such bittering agents.

A colorant may be incorporated to differentiate the handrub from other fluids as long as such an additive is safe and compatible with the essential components of the handrubs. However, the H<sub>2</sub>O<sub>2</sub> in the handrubs may tend to fade any colouring agent used and prior testing is recommended.

## Summary table of risks and mitigation measures concerning the use of alcohol-based hand hygiene preparations

| Risk   | Mitigation  | Risk                                 | Mitigation  |
|--|---|--------------------------------------|---|
| <b>Fire – general</b>                          | <ul style="list-style-type: none"> <li>Do not produce in quantities exceeding 50 litres locally. If producing in excess of 50 litres, produce only in central pharmacies with specialized air conditioning and ventilation.</li> <li>Since undiluted ethanol is highly flammable production facilities should directly dilute it to the concentrations outlined in this Guide.</li> <li>Involve fire officers, fire safety advisers, risk managers, and health and safety and infection control professionals in risk assessments prior to embarking on system change</li> <li>Risk assessment should take into account: <ul style="list-style-type: none"> <li>The location of dispensers</li> <li>The storage of stock</li> <li>The disposal of used containers/ dispensers and expired stock.</li> </ul> </li> <li>Store away from high temperatures or flames</li> <li>Water or aqueous (water) film-forming foam (AFFF) should be used in case of fire; other types of extinguishers may be ineffective and may spread the fire over a larger area rather than put it out.</li> <li>Health-care workers should be advised to rub hands until dry (once dry – hands are safe).</li> </ul> | <b>Fire – storage (local)</b>        | <ul style="list-style-type: none"> <li>The quantity of handrub kept in a ward or department should be as small as is reasonably practicable for day-to-day purposes.</li> </ul>   |
|  |   | <b>Fire – disposal</b>               | <ul style="list-style-type: none"> <li>Rinse out used containers with copious amounts of cold water to reduce the risk of fire (the containers may then be recycled or disposed of in general waste).</li> </ul>  |
|  |   | <b>Fire – location of dispensers</b> | <ul style="list-style-type: none"> <li>Handrub dispensers should not be placed above or close to potential sources of ignition, such as light switches and electrical outlets, or next to oxygen or other medical gas outlets (because of the increased risk of vapours igniting).</li> </ul>   |
|  |   | <b>Fire – spillage</b>               | <ul style="list-style-type: none"> <li>Significant spillages should be dealt with immediately by removing all sources of ignition, ventilating the area, and diluting the spillage with water (to at least 10-times the volume).</li> <li>The fluid should then be absorbed by an inert material such as dry sand (not a combustible material such as sawdust), which should be disposed of in a chemical waste container.</li> <li>Vapours should be dispersed by ventilating the room (or vehicle), and the contaminated item should be put in a plastic bag until it can be washed and/or dried safely.</li> </ul>   |
| <b>Fire – production and storage (central)</b> | <ul style="list-style-type: none"> <li>Local and central (bulk) storage must comply with fire regulations regarding the type of cabinet and store, respectively.</li> <li>Production and storage facilities should ideally be air-conditioned or cool rooms.</li> <li>No naked flames or smoking should be permitted in these areas.</li> <li>National safety guidelines and local legal requirements must be adhered to for the storage of ingredients and the final product.</li> <li>Containers/dispensers should be stored in a cool place and care should be taken regarding the securing of tops/lids.</li> <li>A designated ‘highly flammables’ store will be required for situations where it is necessary to store more than 50 litres.</li> <li>Containers and dispenser cartridges containing handrub should be stored in a cool place away from sources of ignition. This applies also to used containers that have not been rinsed with water.</li> </ul>  | <b>Ingestion</b>                     | <ul style="list-style-type: none"> <li>In areas where there is thought to be a high risk of ingestion, a staff-carried product is advised.</li> <li>If a wall-mounted product is used, consideration should be given to small bottles.</li> <li>If bottles with a greater capacity than 500 ml are used, consideration should be given to providing them in secured containers.</li> <li>Product containers may be labelled simply as “antimicrobial handrubs” with a warning of dangers associated with ingestion.</li> <li>National and local toxicology specialists should be involved in developing and issuing national/ local guidance on how to deal with ingestion (based on products available within a country).</li> </ul> |
|  |   | <b>Other</b>                         | <ul style="list-style-type: none"> <li>Consideration should be given to the risks associated with spillage onto floor coverings, including the risk of pedestrian slips – it is important to deal with spillages immediately.</li> <li>The siting of handrub dispensers above carpets is not recommended, because of the risk of damage and lifting/warping of carpets.</li> </ul>  |

## **SOMERSET COUNTY BOARD OF CHOSEN FREEHOLDERS**

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Shanel Y. Robinson, Freeholder Director  
Sara Sooy, Freeholder Deputy Director  
Brian D. Levine, Freeholder  
Brian G. Gallagher, Freeholder  
Melonie Marano, Freeholder

## **SOMERSET COUNTY AGRICULTURE ROUNDTABLE MEMBERS**

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Mark W. Kirby, Farmer - Derwood Farms  
Richard Norz, Farmer - Norz Hill Farm  
Jon Knox, Farmer - Dogwood Farms  
Matt Puskas, Farmer - Middlebush Farms  
Douglas Vornlocker, Office of Emergency Management  
Amy Sutton, Office of Emergency Management  
Nicholas Polanin, Somerset County Agriculture Agent  
Ryck Suydam, NJ Farm Bureau President  
Brad Fay, Stepping Stone Strategies  
Susan Payne, SADC  
Monique Purcell, NJ Department of Agriculture  
Joseph Atchison, NJ Department of Agriculture

## **SOMERSET COUNTY STAFF**

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Walter C. Lane, Director of Planning  
Anthony McCracken, Assistant Director of Planning  
Katelyn A. Katzer, Principal Planner  
Catherine Bunting, Administrative Assistant  
Dulce Almonte, Agriculture Program Intern  
Joseph DeMarco, Esq., Somerset County Counsel