Together, We See Further

Coronavirus (COVID-19) Cleaner & Disinfectant Hazard Communication Awareness

April/May 2020

This training program is intended to help employees understand basic hazard communication information related to common cleaners & disinfectants used during the Coronavirus (COVID-19) pandemic.

It is not intended to cover all potential chemical hazards nor as a substitute for training and understanding of site-specific chemical hazards and/or site-specific hazard communication procedures and requirements.

Common cleaners & disinfectants used to combat COVID-19 include:

- Hand sanitizers
- Bleach solutions
- Alcohol solutions
- EPA-registered disinfectants

COVID-19 Cleaner & Disinfectant Hazard Communication

Let’s examine the types, uses, hazards, and by some of the common COVID-19 cleaners and disinfectants used in Vitro workplaces

HAND SANITIZERS

Description:

- Hand sanitizers are available as liquids, gels, and foams.
- Alcohol-based versions typically contain isopropyl alcohol, ethanol (ethyl alcohol), or *n*-propanol, with versions containing 60% to 95% alcohol being the most effective.
- Compounds such as glycerol may be added to prevent drying of the skin.
- Non-alcohol based versions typically contain benzalkonium chloride or triclosan; but are less effective than alcohol-based ones.

Uses:

- Hand sanitizers are generally used to decrease infectious agents on the hands.
- They are widely used where soap and water may not be readily available for hand washing.
- To use:
  - **Apply.** Put enough product on hands to cover all surfaces.
  - **Rub** hands together, until hands feel dry. This should take around 20 seconds.
  - **Do not rinse or wipe off** the hand sanitizer before it's dry; it may not work as well as intended.

HAND SANITIZERS

Primary Hazards:

- Most are **flammable liquids, will form flammable vapors,** and **will readily ignite and burn if an ignition source is present**.
- **Can cause serious eye irritation.**

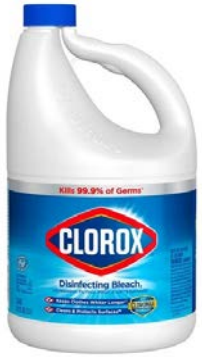
Precautions When Using:

- **Keep away from sources of ignition** such as open flames, cigarettes, sparks, and hot surfaces.
- **Avoid direct contact with the eyes.** Do not touch face or eyes with hands after application until hands are dry.
- **Do not swallow.**
- **IN CASE OF EYE CONTACT, immediately flush eyes with plenty of water for at least 15 minutes.** If easy to do, remove contact lens, if worn. **Seek medical attention.**

BLEACH SOLUTIONS

Description:

- **Unexpired disinfecting household bleach** will be effective against coronaviruses when properly diluted.
- The **active ingredient is sodium hypochlorite.**
- A **solution of at least 2% bleach and water is recommended:**
  - 5 tablespoons (1/3rd cup) bleach per gallon of water OR
  - 4 teaspoons bleach per quart of water



Uses:

- Follow bleach manufacturer's instructions for application and proper ventilation.
- **If mixing bleach with water to make solution:**
  - **Wear face shield over safety glasses**
  - **Wear chemical resistant gloves**
  - **Mix only in well ventilated area**
- Apply bleach solution and **leave solution on the surface for at least 1 minute before wiping off.**

BLEACH SOLUTIONS

Primary Hazards:

- **Can cause severe skin burns and eye damage.**
- **May cause irritation of respiratory tract.**
- **May cause pulmonary edema (excess fluid in the lungs).**
- **When bleach is mixed with ammonia, toxic gases** called chloramines **are produced.**
- Exposure to chloramine gases can cause irritation to the throat, nose, and eyes, coughing, shortness of breath, watery eyes, and pneumonia and fluid in the lungs.

Precautions When Using:

- **Never mix bleach solutions with ammonia or any other cleaner.**
- **Wear protective gloves and safety glasses with shield shields.**
- **Avoid eye and skin contact, and direct inhalation of vapors.**
- **IN CASE OF EYE CONTACT**, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lens, if worn. Seek medical attention.
- **IF ON SKIN**: Remove immediately all contaminated clothing. Rinse skin with water/shower.
- **IF INHALED**: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical attention.

ALCOHOL SOLUTIONS

Description:

- Alcohol solutions refer to **water-alcohol mixtures usually consisting of ethyl alcohol and isopropyl alcohol.**
- The optimum bactericidal **concentration of alcohol is a 60%–90% solution in water.**

Uses:

- Alcohol solutions and towelettes can be used to disinfect surfaces or medication preparation areas, however, they have limited effectiveness for sterilizing medical and surgical materials.
- Shortcomings of alcohol solutions are that they can damage or deteriorate adhesives and glues, cause deterioration or fogging of plastics, and tend to deteriorate, harden and swell rubber.
- **Use in accordance with manufacturer instructions.**

ALCOHOL SOLUTIONS

Primary Hazards:

- **Flammable liquids, will form flammable vapors,** and **will readily ignite and burn if an ignition source is present**.
- **May cause serious eye irritation.**
- **Ethyl alcohol based solutions:**
  - May **c**ause skin irritation
  - May cause drowsiness or dizziness
  - Suspected of reproductive risks
  - May cause damage to organs (central nervous system, optic nerve)

Precaution When Using:

- **Keep away from sources of ignition** such as open flames, cigarettes, sparks, and hot surfaces.
- **Avoid direct contact with the eyes and skin.** Do not touch face or eyes with hands after application until hands are dry.
- **Do not swallow.**
- **Wear protective gloves and safety glasses with shield shields.**
- **Avoid eye and skin contact, and direct inhalation of vapors.**

EPA REGISTERED DISINFECTANTS

Description:

- Disinfectants are **antimicrobial ag ents designed to inactivate or destroy microorganisms** on inert surfaces.
- An **EPA-registered disinfectant** is a disinfectant that has been registered with the Environmental Protection Agency.
- **EPA-registered disinfectants for use against SARS-CoV-2 (the virus that causes COVID-19) are in the U.S. EPA "List N".**

Uses:

- The types of EPA-registered disinfectants and their recommended uses vary widely.
- When using an EPA-registered disinfectant, **follow the label directions** for safe, effective use. Make sure to follow the contact time, which is the amount of time the surface should be visibly wet.
- EPA-registered disinfectants **are for use on surfaces, NOT humans.**

EPA REGISTERED DISINFECANTS

Primary Hazards:

- The hazards associated with EPA-registered disinfectants for use against SARS-CoV-2 vary with the specific disinfectant used.
- Common hazards include, but may not be limited to:
  - Flammability
  - Serious eye irritation
  - Skin irritation
  - Severe skin burns and eye damage
  - Irritation of respiratory tract
  - Reproductive risks
  - May cause damage to organs (central nervous system, optic nerve)

Precaution When Using:

- READ THE PRODUCT LABEL AND REFER TO THE SAFETY DATA SHEET (SDS) FOR DISINFECTANT SPECIFIC HAZARDS AND INSTRUCTIONS!
- DO NOT MIX with other cleaners and disinfectants.
- Keep away from sources of ignition
- Avoid direct contact with the eyes and skin (except hand sanitizers).
- Avoid direct inhalation of aerosols, gases or vapors.
- Do not swallow.
- Wear protective gloves and safety glasses with shield shields.
- Use in well ventilated and open areas.

Conclusion

- There are a wide variety of cleaners & disinfectants which can be used to combat COVID-19.
- Cleaners & disinfectants present a variety of potential hazards and must be used in accordance with manufacturer instructions.
- To protect yourself when using COVID-19 cleaners & disinfectants:
  - ✓ Read the label and consultant the SDS if you want more information
  - ✓ Use in accordance with manufacture instructions

QUESTIONS?