Disinfection using 70%Ethanol and 0.1%Sodium Hypochlorite (Bleach)

Title or Type of Procedure: **Use of disinfectants for routine laboratory decontamination of surfaces and equipment.**

P. I. **Lab Location:**

Original Issue Date: **Revision Dates:**

Prepared By: **Approval Signature:**
(if required by lab supervisor)

Procedural Methods and Materials:

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70% Ethanol; shelf life ~6 Months

Alcohols are volatile and flammable and must not be used near open flames.
Working solutions should be stored in closed containers to avoid evaporation.
Bottles with alcohol-containing solutions must be clearly labeled to avoid autoclaving.
Alcohols can be used on skin, work surfaces of laboratory benches.

To prepare 1 liter of 70% Ethanol using 95% lab Ethanol add 740ml of lab ethanol to 260ml water.

0.1% Bleach; shelf life ~30 days

Sodium hypochlorite (bleach) solutions are unstable. When open to the air, chlorine evaporates at a high rate from the solution, rapidly reducing the concentration of free chlorine. When stored at room temperature and away from sunlight, bleach loses 20-50% of its sodium hypochlorite concentration after 6 months; breaking down into salt and water. Bleach solution is corrosive to stainless steel; therefore, thorough rinsing must follow its use.

To prepare 1 liter of 0.1% Sodium hypochlorite using commercial bleach add 20ml of commercial bleach to 880 ml water.

Procedure: Apply disinfectant to contaminated or potentially contaminated area. If visible or gross contamination is present, apply enough disinfectant to saturate the contamination. Let stand for the indicated contact time (minimum 1 minute) If using bleach rinse with water after use.

Hazard Identification and Risk of Exposure to the Hazards:

1.Creation of infectious aerosols

2.Exposure to respiratory and eye irritants

3.Always keep ethanol solutions away from potential sources of ignition. Prolonged and repeated use of alcohol as a disinfectant can also cause discoloration, swelling, hardening and cracking of rubber and certain plastics.

4.Chlorine solutions should never be mixed or stored with cleaning products containing ammonia, ammonium chloride, or phosphoric acid. Combining these chemicals will result in the release of a chlorine gas, which can cause nausea, eye irritation, tearing, headache, and shortness of breath.

Exposure Controls Specific to Above Risk of Exposure:
The PPE to be worn when working with disinfectants should be commensurate with the highest risk or hazard designation for any single biological agent or material present prior to disinfection.
• Eye and respiratory protection should used whenever the creation of aerosols is possible
Bring SDS to area where seeking medical attention.

Waste Generated and Disposal Methods:

Spill Response Procedures:
Contain spills if possible.
Accident Response Procedures:
- Call 911 or seek medical attention.
- Report the incident to your supervisor as soon as possible, fill out the appropriate documentation.

Note: It is important to fill out all of the appropriate documents to be eligible to collect workers compensation should any complications from the hazardous exposure arise in the future.

Notes: ***(special record keeping such as inventories for toxins, reporting, training, etc. that may be required)***

References:
For Material Safety Data Sheets:
http://www.sigmaaldrich.com/safety-center.html
https://www.fishersci.ca/ca/en/catalog/search/sdshome.html