

TITLE: DECONTAMINATION OF INSTRUMENTS PROTOCOL

Introduction

Decontamination - the process of removing or neutralizing contaminants that have accumulated on equipment - is critical to health and safety at hazardous waste sites.

Decontamination protects workers from hazardous substances that may contaminate and eventually permeate the protective clothing, respiratory equipment, tools, vehicles, and other equipment used on site; it protects all site personnel by minimizing the transfer of harmful materials into clean areas; it helps prevent mixing of incompatible chemicals; and it protects the community by preventing uncontrolled transportation of contaminants from the site.

Prevention of Contamination

The first step in decontamination is to establish Standard Operating Procedures that minimize contact with hazardous substances and thus the potential for contamination. For example: work practices that minimize contact with hazardous substances (e.g., wear gloves before you come into contact with client's body fluids, an area of obvious contamination, do not directly touch potentially hazardous substances). For example, proper procedures for dressing prior to certain procedures

Prior to each use, the personal protective equipment (PPE) should be checked to ensure that it contains no cuts or punctures that could expose workers to wastes. Similarly, any injuries to the skin surface, such as cuts and scratches, may enhance the potential for chemicals or infectious agents that directly contact the worker's skin to penetrate into the body. Particular care should be taken to protect these areas. Workers with large areas of damaged skin should be kept from working on site until the skin heals.

Types of Contamination

Contaminants can be located either on the surface of personal protective equipment or permeated into the PPE material. Surface contaminants may be easy to detect and remove; however, contaminants that have permeated a material are difficult or impossible to detect and remove. If contaminants that have permeated a material are not removed by decontamination, they may continue to permeate to either surface of the material where they can cause an unexpected exposure.

Five major factors affect the extent of permeation:

Contact time. The longer a contaminant is in contact with an object, the greater the probability and extent of permeation. For this reason, minimizing contact time is one of the most important objectives of a decontamination program.

Concentration. Molecules flow from areas of high concentration to areas of low concentration. As concentrations of wastes increase, the potential for permeation of personal protective clothing increases.

Temperature. An increase in temperature generally increases the permeation rate of contaminants.

Size of contaminant molecules and pore space. Permeation increases as the contaminant molecule becomes smaller, and as the pore space of the material to be permeated increases.

Physical state of wastes. As a rule, gases, vapors, and low-viscosity liquids tend to permeate more readily than high-viscosity liquids or solids.

Preparation of bleach solution

Manufactures stock strength divided by WHO set strength - 1

(5/0.5) - 1

Current solution is 5% so therefore $5/0.5 - 1 = 10 - 1 = 9$

One (1) part of bleach solution to 9 parts of water

1. Immerse all used instruments in a plastic bucket of a bleach solution for at least 10minutes
2. Put on utility gloves and remove instruments from bleach solution after 30minutes
3. Rinse the instruments in warm or cold water
4. Scrub the instruments using a soft brush with liquid detergent, paying attention to the crevices under running water
5. Rinse instrument thoroughly with clean water to remove all detergents
6. Dry by air or with clean towel
7. wrap instruments for autoclaving

