



Lecture title: Decontamination and Waste Disposal

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*Summary: Decontamination and
Waste Disposal*

Definitions.

2. Main considerations.

3. Factors affecting Decontamination/Sterilization.

4. Autoclave

5. Personal Protective Equipment (PPE)

Sterilization: Thermal, chemical, or radiological processes for destroying microbial life

- **Disinfection:** To inactivate / removal of disease causing organisms from living parts.

- **Decontamination:** To make surfaces safe to use

- **Cleaning:** Water and detergents to remove particulates/spills/soil/etc

Main considerations

- **Hazardous waste:** all waste requiring special treatment

- Can be biological, toxic, radioactive, etc

- **Biomedical waste:** waste from human/animal care or



research facilities

- 1. Microbiology waste: cell cultures, stocks, viruses**
- 2. Sharps waste: needles, syringes, blades, broken glass**
- 3. Human blood and body fluids: all human bodily fluids**
- 4. Animal waste: tissue, organs, carcasses, bedding, bodily fluids.**

3- Factors affecting Decontamination/Sterilization

- **Contact time**
 - **Long enough to kill/inactivate organisms**
- **Organisms targeted**
 - **Varying in survival time**
- **Surface chemistry**
 - **Avoid damaging equipment and surfaces**
- **Safety**
 - **Available PPE**

4- Autoclave

- **Thermal decontamination**
 - **Heat from high-pressure steam**
 - **Can be used to sterilize**
- **Factors affecting efficacy**

1. Time

2. Temperature



3. Pressure

4. Contact with steam

Personal Protective Equipment (PPE)

The most common types of PPE that protect you from biological hazards include:

- 1. Latex gloves.**
- 2. Proper mask for biosafety.**
- 3. Eye protection.**
- 4. Face shield.**
- 5. Apron and special full body safety clothes.**
- 6. Shoe cover and boots.**