

# Cleaning Chemicals

## Course 451: Cleaning Chemicals

Covers the safe use of cleaning chemicals, including the OSHA Hazard Communication standard. Covers the basic chemistry of cleaning chemicals, then explains the correct use of detergents, soaps, solvents, disinfectants, and other cleaning chemicals. Explains how chemicals are packaged, labeled, mixed, and applied in order to make working with chemicals safer and the trainee more efficient.

TPC Training is accredited by IACET to offer **0.5 CEU** for this program.



### Lesson 1: Using Chemicals Safely

#### Topics

The OSHA Hazard Communication Standard; What Is an MSDS?; What Is a Chemical Hazard?; Exposure Routes; Controlling Chemical Hazards; Detecting Exposure Hazards

#### Objectives

- Identify the goals of the Hazard Communication Standard and the agency responsible for writing and enforcing the standard.
- Explain the purpose and basic content of an MSDS.
- Give examples of the health hazard information contained in MSDSs and how it is used.
- Give examples of the physical hazard information contained in MSDSs and how it is used.
- Describe typical MSDS instructions on special precautions and procedures.
- Define chemical hazard and name the two categories into which they are divided.
- Name and describe the six kinds of health hazards.
- Name the three basic routes of health hazard exposure.
- Discuss common methods of controlling chemical hazards.
- Explain how to detect exposure hazards and symptoms.

### Lesson 2: Introduction to Cleaning Chemicals

#### Topics

Cleaning Chemicals Defined; Cleaning Agents; Disinfectants; Selecting the Correct Product; Correct Product Use

#### Objectives

- List the three kinds of cleaning chemicals.
- Explain the advantages and disadvantages of soaps.
- Compare and contrast soaps and detergents.
- Tell what protective equipment is required when working with solvents.
- Explain how solvent and abrasive cleaners work.
- Describe the purpose of a disinfectant.
- List the important factors to consider when selecting a cleaning product.
- Tell where to find information about correct product usage.

### Lesson 3: Cleaning Agents

#### Topics

Why Use Cleaning Agents?; Detergency Processes; Physical Characteristics of Cleaning Agents; Chemical Characteristics of Cleaning Agents; Electrical Charges in Soaps and Detergents; Matching the Product to the Job; General-Purpose Cleaners; Strippers; Degreasers; Shampoos; Other Considerations

#### Objectives

- Name the chemicals in cleaning agents that dissolve grease and oil.
- Name and describe the four most important detergency processes.
- Define penetration, suspension, and viscosity as characteristics of cleaning agents.
- Tell how cationic soaps and detergents differ from anionic soaps and detergents.
- Name an advantage and a disadvantage of a multi-duty cleaners.
- Tell why wetting agents are used in degreasers.

### Lesson 4: Disinfectants

#### Topics

Disease-Causing Microorganisms; How Microorganisms Live; Controlling the Growth of Germs; Disinfectants; Kinds of Disinfectants; Product Information; Preparing Disinfectants for Use; Cleaning and Disinfecting; Cleaner/Disinfectants

#### Objectives

- Define the term pathogenic.
- List four kinds of microorganisms capable of causing disease.
- Explain the difference between cleaning and disinfecting.
- List three factors that make killing germs a difficult task.
- Define the terms sanitization, disinfection, and sterilization.
- State an advantage and a disadvantage for each of the main kinds of disinfectant.
- Explain why it is important to follow product dilution information carefully.

### Lesson 5: Special-Purpose Cleaning Chemicals

#### Topics

Acid Bowl Cleaners; Glass Cleaners; Absorbents; Dust Control Chemicals; Furniture Polishes; Metal Polishes; Hand Soaps and Cleaners; Graffiti Remover; Drain Cleaners; Deodorants

#### Objectives

- Explain why it is necessary to use an acid bowl cleaner on toilets and urinals.
- List the characteristics of a good glass cleaner.
- Explain the purpose of absorbents.
- Explain where and why dust control chemicals are used.
- Give three reasons for using furniture polish on unsealed wood.
- List the properties of a good hand cleaner.
- Describe the necessary precautions to take when using drain cleaners.
- Name the three common forms of room deodorant.