

DVD 1: INTRODUCTION AND LABORATORY AREAS

PART 4

PERSONAL PROTECTIVE EQUIPMENT

OVERVIEW

Personal protective equipment is an important aspect of handling chemicals safely. This segment demonstrates several different types of personal protective equipment.

OBJECTIVES

After this unit, you should be able to:

- state the rules for proper chemical handling.
- identify unsafe attitudes toward safety.
- identify various types of personal protective equipment and describe how it is used.

INTRODUCER

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KEY TERMS

Airline mask

Manufacturers technical information

Airline Hood

Material Safety Data Sheet (MSDS)

Cartridge respirator

Self contained breathing apparatus (SCBA)

Canister respirator

SUPPORTING MATERIAL AND REFERENCES

1. H. H. Fawcett and W. S. Wood, Editors, *Safety and Accident Prevention in Chemical Operations*, 2nd Edition (New York, NY: John Wiley and Sons, 1982) Chapter 25: Respiratory Hazards and Protection, by H. H. Fawcett; Chapter 26: Eye Safety in Chemical Operations, by J. Nichols; Chapter 27: Other Personal Protective Equipment, by H. H. Fawcett.
2. H. H. Fawcett, *Hazardous and Toxic Materials* (New York, NY: John Wiley and Sons, 1984), Chapter 5: Personal Protective Equipment

Personal Protective Equipment

OUTLINE

NOTES

- I. Rules for safe chemical handling
 - A. Err on the safe side
 - B. Review and establish safety properties of chemicals
 - C. Take responsibility for safety
- II. First line of defense for safety:
 - A. Good engineering design
 - B. Good operating procedures
 - C. Wearing of proper personal protective equipment
- III. Avoid these unsafe attitudes:
 - A. laziness
 - B. "tough guy"
 - C. "good guy"
 - D. vanity
- IV. Sources of safety information
 - A. Material Safety Data Sheet (MSDS)
 - B. Manufacturer's technical information
- V. Safeguards for safety
 - A. Wearing proper protective equipment
 - B. Safety procedures
 - C. Safety features
- VI. Personal protective equipment
 - A. Face protection
 1. safety glasses

Personal Protective Equipment

OUTLINE

NOTES

2. safety goggles
 3. face shield
 4. Hard hat
- C. Apron
- D. Gloves
1. protects hands and wrists
 2. type used depends on situation
- E. Special chemical suits
1. rubber
 2. disposable
- F. Foot protection
1. rubbers
 2. steel safety-toe boot
 3. high top boot - trousers outside
- G. Respirators- require good facial fit
1. dust mask
 2. cartridge respirator
 3. canister respirator
 4. airline mask
 5. self-contained breathing apparatus
 8. airline hood