

Unit 1

SAFETY TERMINOLOGIES

Chapter 1.3

Routes of Chemical Entry-Personnel Protective Equipment:

Chemicals can enter the body through various routes, and the route of entry often influences the potential health effects. The primary routes of chemical entry include:

1. Inhalation:

- **Description:** Inhaling chemical substances is a common route of entry. It involves breathing in airborne particles, gases, vapors, or aerosols.
- **Examples:** Inhalation exposure can occur in workplaces with airborne contaminants, such as dust, fumes, gases, and vapors.

2. Ingestion:

- **Description:** Ingestion involves the entry of chemicals into the body through the mouth, usually by swallowing contaminated food, water, or other substances.
- **Examples:** Ingestion exposure can occur through contaminated food, water, or hands.

3. Dermal (Skin) Contact:

- **Description:** Chemicals can enter the body through direct contact with the skin. This can include absorption through the skin or penetration through cuts or abrasions.
- **Examples:** Exposure to chemicals in the workplace, such as contact with liquid chemicals or exposure during activities like painting or cleaning.

4. Ocular (Eye) Exposure:

- **Description:** Chemicals can enter the body through contact with the eyes, leading to eye irritation or damage.
- **Examples:** Splashes of chemicals, dust, or fumes that come into contact with the eyes in industrial settings or laboratories.

5. Injection:

- **Description:** Injection involves the direct introduction of a substance into the body through puncture wounds, needlesticks, or other invasive procedures.
- **Examples:** Occupational hazards for healthcare workers, laboratory personnel, or individuals who work with needles or sharps.

Personal Protective Equipment (PPE) refers to specialized gear or clothing designed to protect individuals from various workplace hazards and ensure their safety. The use of PPE is a crucial component of occupational health and safety programs. The specific types of PPE required depend on the nature of the work and the potential hazards present. Here are some common types of PPE:

1. **Head Protection:**

- **Hard Hats:** Protect the head from falling objects, impact, and electrical hazards.

2. **Eye and Face Protection:**

- **Safety Glasses:** Shield the eyes from impact, splashes, and airborne particles.
- **Face Shields:** Provide additional protection for the face against splashes, sparks, and flying debris.

3. **Hearing Protection:**

- **Earplugs and Earmuffs:** Reduce exposure to high levels of noise and protect against hearing damage.

4. **Respiratory Protection:**

- **Dust Masks and Respirators:** Protect the respiratory system from airborne contaminants, particulates, and gases.

5. **Hand Protection:**

- **Gloves:** Shield hands from cuts, abrasions, chemicals, and other hazards. Various types of gloves are available for different applications.

6. **Body Protection:**

- **Coveralls and Aprons:** Guard against chemical splashes, dust, and other contaminants.
- **Reflective Vests:** Enhance visibility in low-light conditions for workers in traffic or construction zones.

7. **Foot Protection:**

- **Safety Boots or Shoes:** Provide protection against falling objects, punctures, electrical hazards, and slippery surfaces.

8. **Fall Protection:**

- **Safety Harnesses and Lanyards:** Prevent falls from heights and protect against serious injuries.

9. **High-Visibility Clothing:**

- **Hi-Vis Vests and Jackets:** Increase visibility in environments where workers need to be seen, such as construction sites or roadwork areas.

10. **Chemical Protective Clothing:**

- **Chemical-resistant Suits and Aprons:** Protect against exposure to hazardous chemicals.