

Training Module: Skin Irritants

Objective: To be able to describe the hazards that can occur when solvents and acids come in contact with the skin, and to know how to prevent this exposure.

Trainer's Note: It will be important to have employees understand that skin is a valuable body tissue that must be protected from danger. The following discussion questions will help serve as an employee training tool and familiarize employees with the proper procedures to follow in the event that skin is contacted with solvents and acids. Ask the employees to identify the protective equipment and devices used in the operation. Include the importance of proper maintenance. Identify and review the operation of emergency showers, eyewash fountains, emergency hand/face spray units and other emergency equipment. Review procedures for reporting accidental exposures to hazardous substance.

Background

Solvents affect the skin differently. Because they are usually used to remove grease and oil in industrial processes, it is not surprising that these solvents also remove fats and oils from the skin. When this occurs, water is also lost and the skin becomes cracked and dry. On the other hand, prolonged exposure to oils and waxes can plug the skin's hair follicles and sweat ducts, causing inflammation and acne.

Dermatitis is an inflamed and irritated skin condition. There are two types of dermatitis: Primary irritation and sensitization.

Primary irritation: Occurs from contact with a substance in sufficient quantity. Strong acids, caustics and solvents are example of primary irritants.

Sensitization: Occurs as a result of an allergic reaction to a substance. The sensitivity is usually established over a long period, and once established, exposure to just a small amount of the substance can produce a severe case of dermatitis. In addition to chemical substances, physical agents, such as heat, cold, water, sunlight and radiation, can also injure skin.

The following chart will help you organize the session:

DERMATITIS			
Primary Irritants	Example Exposure	Duration	Effect of Exposure
Strong Acids	Hydrochloric Acids Sulfuric Acids Nitric Acids	Brief	Severe Burns
Strong Caustics	Sodium Hydroxide Potassium Hydroxide	Brief	Severe Burns
Strong Solvents	Paint Remover Alcohol	Prolonged	Inflammation Acne

Ways to Prevent Dermatitis:

- Before working with a process involving hazardous substances, make sure of the hazards.
- Read the labels on the containers and learn the emergency procedures in case an accident occurs.
- When working with primary irritants, try to avoid contact, especially when strong corrosive materials are involved.
- Use personal protective equipment, such as proper gloves, sleeves, aprons, shields and footwear, and barrier creams.

Review the Following Points:

- Be familiar with all types of skin irritants.
- Know what substances used in your operation are dangerous.
- Know the correct procedures to follow during an emergency.
- Wear protective equipment when on the job.
- Call for help when needed.

True or False Answer Key
1. T, 2. T, 3. F, 4. T, 5. T

Skin Irritants Quiz

True or False

Name _____

- | | | |
|--|---|---|
| 1. Solvents are used to remove grease and oil in the industrial process, and can remove fats and oils from the skin. | T | F |
| 2. Skin is a valuable body tissue. | T | F |
| 3. When working with primary irritants, it is not necessary to try to avoid direct contact. | T | F |
| 4. Strong caustics can cause severe burns. | T | F |
| 5. Sensitization is the result of an allergic reaction to a substance. | T | F |