

# OSHA Safety and Health Regulations Related to SPF Applications

## Module Two: Hazard Communication Handouts and Quiz



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## Module Two: Hazard Communication

Hazard Communication (Hazcom) is an effective way to teach employees about the hazards of the chemical products they work with. Hazcom does this by:

- Container labeling
- Material Safety Data Sheets
- Employee training.

The hazards covered and discussed must be specific to the workplace.

### Main Chemicals Used in SPF Applications include

- A side (polymeric diisocyanate)
- B side (polyol resin)
- Solvents
  - DPM (dipropylene glycol monomethyl ether) (used as gun cleaner)
  - Mineral Spirits (used in silicone coatings)
  - Xylene/toluene (used in polyurethane coatings)
  - MEK (methyl ethyl ketone, used in polyurethane coatings)

### A-Side Methylene Diphenyl Diisocyanate (MDI) Concerns

- MDI is classified as “hazardous” for shipping & storage purposes
- Reacts with Water
- Persons can be sensitized by inhaling vapors or by skin contact
- OSHA PEL .02 ppm
- ACGIH TLV-TWA 0.005 ppm
- Requires PPE specific to job task
- Empty containers require special handling for disposal

Over exposure can cause

- Sensitization
- Coughing;
- Chest-tightness/discomfort;
- Shortness of breath; and
- Reduced lung function

Respiratory sensitization can result from:

- One massive overexposure
- Repeated exposure to airborne concentrations above the exposure limit

### **B-Side Main Health Concerns**

- Inhalation overexposure may cause respiratory irritation
- Skin or eye contact may cause irritation at the site
- Foggy vision known as “blue haze” or “halovision.” (Vision restored within a few hours after exposure ceases)
- Amine catalysts associated with fishy odor
- Neither OSHA nor ACGIH has established exposure limits for polyols

### **How to Handle Empty A-Side Containers**

- Should not be used to store other materials
- Storing other materials in containers that previously held MDI could lead to a chemical reaction and potential worker safety issues
- NO cutting or hot torches to cut used MDI containers
- Punctured or crushed containers prevent reuse

## Hazardous Material Identification System (HMIS) Labeling System

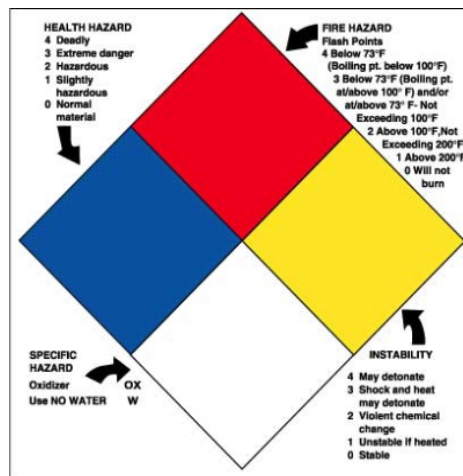


Uses scale of 0 to 4 (0 is lowest hazard; 4 is the highest)

Categories rated:

- Health (blue rectangle)
- Flammability (red rectangle)
- Reactivity (yellow rectangle)

## NFPA Labeling System



Uses scale of 0 to 4 (0 is lowest hazard; 4 is the highest)

- Left diamond: Health
- Top diamond: Fire
- Right diamond: Reactivity
- Bottom: Special/specific hazards

## Quiz - Module Two: Hazard Communication

- 1. Which of the following is not included under the Hazcom Standard?**
  - a. Labeling
  - b. Training
  - c. OSHA Injury recordkeeping
  - d. Material Safety Data Sheet (MSDS)
  
- 2. HMIS and NFPA are used to describe**
  - a. Chemical makeup of A side and B side materials
  - b. Departments found within EPA
  - c. Acronyms for OSHA standards
  - d. Labeling systems for containers
  
- 3. The main chemicals used in SPF applications include:**
  - a. A side, B side and solvents
  - b. A side, B side and C side
  - c. A side and solvents
  - d. B side, water and solvents
  
- 4. Overexposure to A-side Methylene Diphenyl Diisocyanate (MDI) does not cause:**
  - a. Chest tightness
  - b. Shortness of breath
  - c. Reduced lung function
  - d. Increased intelligence

- 5. Persons who inhale “A” side vapors can become sensitized.**
- a. True
  - b. False
- 6. Empty “A” side containers may be used to store other materials.**
- a. True
  - b. False
- 7. B-side health concerns include blue haze or halovision.**
- a. True
  - b. False
- 8. On the HMIS label, the number four in the red rectangle describes:**
- a. A moderate level health hazard
  - b. A low level fire hazard
  - c. A high level reactivity hazard
  - d. A high level fire hazard
- 9. Which statement is true?**
- a. Material Safety Data Sheets are not required for solvents
  - b. Empty A side containers require special handling for disposal
  - c. Methylene Diphenyl Diisocyanate (MDI) has no health related concerns
  - d. Cutting of empty A side containers is permissible
- 10. The Hazard Communication standard is required by law.**
- a. True
  - b. False

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# Answer Sheet for Quiz - Module Two: Hazard Communication

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