
Interpreting Chemical Labels

Final Assessment

Instructor Guide

Note to Instructor

This is the Assessment for Chemical Labels and NFPA Ratings Interpretation. This assessment could be used as both a pre-test and post-test. This would provide information on what was learned as a result of completing the supporting PK and activities.

Below are all the units in the Chemical Label Learning Module.

- Interpreting Chemical Labels PK
- NFPA Ratings / NFPA Diamond PK
- NFPA Ratings Interpretation Activity
- Interpreting Chemical Labels Activity
- **Interpreting Chemical Labels Final Assessment**

Following are 12 assessment questions. The answers are indicated in red.

To see other safety related learning modules, please visit the SCME website (<http://scme-nm.org>).

Introduction

The objective of this assessment is to determine your current knowledge on the requirements of chemical labels, NFPA ratings for chemical hazards and the ratings interpretation.

Chemical Labels are required on all chemicals that are shipped, transported or used in a laboratory or facility. There are minimum requirements for all labels. Some labels use the NFPA ratings to indicate the level of hazard for a particular chemical.



Answer each of the following assessment questions.

1. What United States organization sets the requirements for the information found on chemical labels?
 - a. National Fire Protection Association
 - b. Occupational Safety and Health Association**
 - c. National Safety Council
 - d. American Society of Safety Engineers
2. Which of the following items is NOT required on the label of chemicals shipped from the manufacturer?
 - a. Emergency contact number
 - b. NFPA Fire Diamond**
 - c. Chemical Identity
 - d. Physical / Health Hazards
3. Which of the following is NOT required on a chemical label to provide a warning of a health or physical hazard?
 - a. Hazard pictogram
 - b. Single Word
 - c. Hazard of precautionary statement
 - d. SDS identification number**
4. The buyer of a chemical is allowed to transfer small amounts of the chemical into supplementary bottles. Which of the following is required on the labels for such bottles?
 - a. NFPA diamond and chemical identity
 - b. Chemical identity and emergency contact number
 - c. Chemical identity and appropriate hazard warning (word/pictogram)**
 - d. Chemical identify and manufacturer's information
5. On a NFPA diamond, the color blue represents which category?
 - a. Health**
 - b. Flammability
 - c. Reactivity
 - d. Special Hazard
6. On a NFPA diamond, the color yellow represents which category?
 - a. Health
 - b. Flammability
 - c. Reactivity**
 - d. Special Hazard

7. Which of the following BEST describes the health hazard indicated in the following NFPA diamond?

- a. Extreme Danger
- b. Prolonged exposure could cause residual injury
- c. Hazard no greater than ordinary material
- d. Hazardous



8. Which of the following BEST describes the flammability hazard indicated in this NFPA diamond?

- a. Extremely flammable
- b. Must be preheated for ignition
- c. Has a flashpoint below 100° F
- d. Has a flashpoint below 200° F



9. In this NFPA diamond, the chemical is classified as a _____.

- a. Oxidizer
- b. Flammable
- c. Carcinogen
- d. Corrosive



10. What is wrong with the information on the following NFPA diamond?

- a. A flammability rating of 4 requires a higher health hazard rating.
- b. Do not mix with water requires a higher reactivity hazard rating.
- c. Do not mix with water requires a higher health hazard rating.
- d. There is nothing wrong with the information on this NFPA diamond.

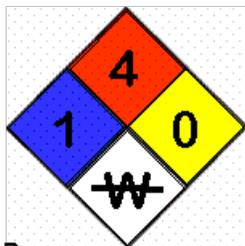


11. On a NFPA diamond a reactivity rating of 3 implies the following.

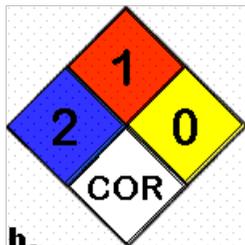
- a. Normally stable
- b. May detonate
- c. Violent chemical change
- d. Shock or heat may detonate
- e. Unstable when heated

12. Which of the following NFPA diamonds BEST represents the characteristics of the Industrial Bowl Cleaner chemical described in the label below?

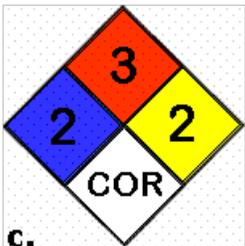
Answer: The BEST NFPA diamond for this chemical is "b". It is a corrosive which presents a health hazard. A flammability rating of 3 or 4 would require a flammability warning on the label.



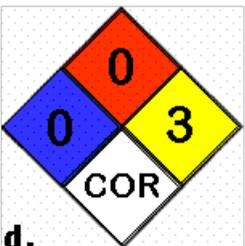
a.



b.



c.



d.

<p>Daily Bowl Cleaner Quickly removes rust, lime and uric acid deposits. Eliminates offensive odors. Destroys many dangerous bacteria. Will not harm bacteria action of septic tanks.</p>		<p>Industrial Bowl Cleaner Cleans and Deodorizes</p>	<p>FIRST AID: If swallowed, do not induce vomiting. Call a physician immediately. Drink large quantities of water, followed by several tablespoons of milk of magnesia or egg whites. If in eyes, flush with large amounts of water and get prompt medical attention. If on skin, wash thoroughly with soap and large quantities of water, then cover with moist magnesia or baking soda.</p>
<p>Directions: 1. Rotate nozzle to SPRAY position. 2. Spray 6 to 8 inches from surface to be cleaned. Coat evenly and allow product to penetrate dirt. 3. Wipe with wet sponge or cloth. Rinse with water.</p>		<p>Active Ingredients Hydrogen chloride.....9.00 % Dimethyl benzyl ammonium chlorides0.05 % Inert Ingredients (detergents, emulsifying agents and essential oils).....90.95 %</p>	<p>CHEMICAL HAZARD Do not use with Chlorine-type bleaches or other chemicals.</p>
<p>For Industrial and Institutional Use Only</p>		<p>DANGER: Keep out of reach of Children. DANGER: CORROSIVE Produces Chemical burns. Do not get in eyes, on skin, or on clothing. May be fatal or harmful if swallowed. Do not breathe vapor or fumes. Wear goggles or face shield and rubber gloves when handling. Use with a adequate ventilation</p>	<p>STORAGE AND DISPOSAL Store in an area inaccessible to children. Do not reuse empty container. Wrap empty container in plastic bag and discard in trash.</p>

Support for this work was provided by the National Science Foundation's Advanced Technological Education (ATE) Program.