

Hazardous Materials I and II

Final Assessment Instructor Guide

Note to Instructor

The objective of Hazardous Materials I and II Assessment is to assess the participant's knowledge and understanding of the information covered in the Hazardous Materials Learning Module. Below is the *Hazardous Material Learning Module*:

- Hazardous Materials I and II Knowledge Probe (pre-test / post-test)
- Hazardous Materials I
- Hazardous Materials II
- Hazardous Materials I and II Activity
- **Hazardous Materials I and II Final Assessment**

There are 16 questions in this assessment.

Below are the assessment questions and answers.

1. List at least five (5) requirements of the OSHA Hazard Communications Standard.
- a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____

Answer:

*List of all chemicals in the workplace
Hazard evaluation by the manufacturer
Product warning label system
Accessible SDS's for all chemicals
Written hazard communications program
Training program
Procedures to maintain and evaluate the program*

2. List five (5) physical forms of chemicals.
- a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____

Answer:

Liquids, solids, gases, vapors, fumes, mists, fibers, dust

3. What is “the relative capacity of a chemical to combine chemically or react with another substance?” _____

Answer: Reactivity

4. This warning symbol warns us that the chemical is a _____.



Answer: A carcinogen

5. What type of chemical produces a toxic effect, illness or death, when ingested, inhaled or absorbed through the skin?

Answer: Poison

6. What are the possible health effects on humans caused by the chemical that is associated with this warning symbol?

Answer: This is an oxidizer

*Can cause severe and painful skin burns
Can burn the eyes and cause blindness
If inhaled, can burn the nose and lungs*



7. Match the chemical characteristics to its physical hazard:

Answer (<i>Write the letter of the correct physical hazard below</i>)	Chemical Characteristic	Physical Hazard
D	Combustible	Can easily be set on fire and once set, continues to fuel the fire. A liquid, as well as its vapor, can be flammable.
F	Explosive	Reacts with oxygen. This reaction aids in maintaining a fire once started.
B	Oxidizer	Can be spontaneously ignited in air.
C	Pyrophoric	Any liquid or solid that will burn or any liquid that burns when heated to 100° F or higher.
A	Flammable	Relative capacity of a chemical to combine chemically or react with another substance.
G	Peroxide	Explodes if heated or subjected to an electric spark. An explosive can release dangerous gases and continue to feed a fire
E	Reactivity	Unstable, releases oxygen when heated, and is a powerful oxidizing agent.

8. What is a biohazard?

Answer: A biological substance that poses a threat to human health, such as medical waste, samples of microorganisms, viruses or toxins (from a biological source).

9. Discuss the difference between a corrosive and an irritant.

*Answer: A **corrosive** causes visible and irreversible damage to living tissue and some metals. An **irritant** causes a reversible inflammatory effect on living tissue.*

10. Pregnant women should not work in a lab that contains what type types of chemicals due to the chemicals' potential to harm the embryo or fetus?

Answer: Mutagens and Teratogens

11. What are the three routes of chemical exposure?

Answer: Inhalation, ingestion, absorption

12. Cite an example for each of the following types of exposure.

a. Acute exposure: _____

b. Chronic exposure: _____

Answer:

Acute exposure example should illustrate a short term effect.

Chronic exposure example should illustrate a long term effect.

13. Define Toxicity:

Answer: Toxicity is the effect a chemical has on one's health under certain concentrations and exposure times.

14. Why can two people react differently to the same exposure of the same chemical?

Answer: The variables that affect how a person reacts to chemical exposure include race, variations within a race, gender, age, physiological conditioning, state of health, medications, drugs, alcohol, heredity, synergistic effect, physical state of the chemical (gas or solid).

15. What is the threshold limit value?

Answer: TLV is the airborne concentration of a substance that represents conditions under which nearly all workers may be exposed day to day with no adverse effect.

16. What is the purpose of PPE?

Answer: To protect the worker from chemical, physical and biological hazards that may be encountered in the workplace.

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