

Dow Chemical LAD
Solvents / EDC 1

Hazardous Chemical Review Training Test

Name : Laurie Hunt

Date : 3 / 16 / 85

Master # : 088600

Employer : Dow Chemical

I. True/False (Circle "T" if the statement is true; Circle "F" if the statement is false)

- ☒ T F 1. Acute exposure is a sudden event that occurs in a short period of time.
- ☒ T F 2. Chronic exposure occurs over a long period of time.
- ☒ T F 3. Benzene is a confirmed human carcinogen.
- T ☒ F 4. Carbon Tetrachloride is a confirmed human carcinogen.
- ☒ T F 5. When working around Benzene in the T-90 area, you must wear a positive-pressure atmosphere-supplying respirator.
- ☒ T F 6. Carbon Tetrachloride, Hexachlorobenzene, Hexachlorobutadiene, Hexachloroethane, 1,1,2-Trichloroethane, and 1,1,2,2-Tetrachloroethane are all toxic through skin contact.
- ☒ T F 7. Approximately 5 to 10 mils of Carbon Tetrachloride is the average lethal dose for an adult human.
- ☒ T F 8. The odors of most chlorinated hydrocarbons are not markedly unpleasant and therefore are easily respired with no noticeable discomfort.
- T ☒ F 9. The odor of chemicals normally provides adequate warning of overexposure.
- ☒ T F 10. Inhalation is the primary exposure route linked with exposure.

II. Matching: Match the odor threshold on the right with the chemical on the left.

- | | |
|----------------------------------|------------|
| <u>B</u> 1. Carbon Tetrachloride | A. 88 PPM |
| <u>C</u> 2. Perchloroethylene | B. 96 PPM |
| <u>A</u> 3. Ethylene Dichloride | C. 27 PPM |
| <u>E</u> 4. Chlorine | D. .77 PPM |
| <u>D</u> 5. Hydrogen Chloride | E. .3 PPM |

III. Multiple Choice: Circle the letter of the most appropriate answer.

1. What is the best method to reduce exposure to employees?
 - a. Wearing a respirator at all times
 - ☒ b. Implementing engineering controls
 - c. Develop better air sampling methods
 - d. Increased Medical Surveillance
2. Employee monitoring results are;
 - a. Top Secret and not for publication
 - b. Reported to the Louisiana DEQ
 - ☒ c. Reviewed with employees within 15 days after the results are received
 - d. Not required to be reviewed with employees
3. After plant emergencies involving releases of Benzene, at the end of the shift, all employees involved must;
 - ☒ a. Report to the Medical Department for a urinary phenols test
 - b. Report to the Medical Department for a drug test
 - c. Report to the Medical Department for a chest X-ray
 - d. Report to the Medical Department for a free breakfast
4. If you are splashed with chemicals in the eyes or on the skin, you should;
 - a. Drink 3 glasses of water and induce vomiting
 - ☒ b. Immediately flush the area with water for 15 minutes
 - c. Shower when you get home
 - d. Take it like a man
5. If an employee ingests benzene or carbon tetrachloride, you should;
 - a. Induce vomiting and immediately call a physician
 - ☒ b. Not induce vomiting and immediately call a physician
 - c. Give them milk
6. If an employee ingests ethylene dichloride or perchloroethylene, you should;
 - a. Induce vomiting and immediately call a physician
 - ☒ b. Not induce vomiting and immediately call a physician
 - c. Give them milk
7. In general, the chlorinated hydrocarbons in the plant are classified as;
 - a. Poisons (they will kill you dead)
 - ☒ b. Hepatotoxins (they damage the liver)
 - c. Respiratory Irritants
 - d. Mutagens
 - e. Lachrymators
 - f. Central Nervous System Depressants
 - g. Carcinogens
 - h. All of the above

Answer Sheet

Section I

1. True
2. True
3. True
4. False
5. True
6. True
7. True
8. True
9. False
10. True

Section II

1. B
2. C
3. A
4. E
5. D

Section III

1. B
2. C
3. A
4. B
5. B
6. B
7. B

Dow Chemical LAD
Solvents / EDC 1

Proficiency Test
for
Hazardous Waste Operations and Emergency Response
OSHA CFR29 § 1910.120

Name : Laurie Hunt

Date : 3 / 16 / 95

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I. Safety & Health

Name the standard safety equipment required in the Solvents / EDC 1 plant.

Hard hat, hearing protection, monogoggles, safety glasses, nitrile

- ☒ True/False - The OSHA Lockout/Tagout Standard, requires that you accept, by signature, the red tag master (for a single worker or the crew foreman) or the red tag work crew roster (for more than one worker) when working on any job requiring red tags.
- ☒ True/False - When no Safe Operating Procedure is available, the Dow US Area Elevated Work Standard requires the use of fall protection when working over 6 feet above the ground.
- ☒ True/False - All work related injuries must be immediately reported to Dow supervision.
- ☒ True/False - Nearly all workers in the chemical industry may be repeatedly exposed to certain concentrations of nearly all chemicals, day after day, without adverse effects.
- ☒ True/False - Any piece of equipment that has Dow red tags attached to it may not be operated at any time by contract employees. at Dow
- ☒ True/False - Respirator fit-testing is required for all respiratory equipment that requires a face to facepiece seal (except for positive pressure masks).
- ☒ True/False - To use an air-purifying respirator, you must have medical approval, have completed respirator training, have been fit-tested on that respirator, and be clean shaven (or have medical approval to have, at maximum, a 1/8" beard).
- ☒ True/False - During welding activities in confined spaces, the minimum air flow in the confined space must be at least 2000 CFM per welder.
- ☒ True/False - Employees are required to submit to hearing audiograms annually since the plant operates under a Hearing Conservation Program.
- ☒ True/False - The Safe Work Permit will specify the Personal Protective Equipment that is needed to safely complete the job.
- ☒ True/False - Upon eye or skin contact with any chemical, proceed immediately to the nearest safety shower, turn on the appropriate wash (eyewash or shower) and press the alarm button.
- ☒ True/False - Motorized equipment and hand tools must be inspected by the user on a prior to use basis.

III. HAZWOPER (OSHA CFR29 § 1910.120)

What does HAZWOPER stand for?

Hazardous Waste Operations and Emergency Response

The Solvents / EDC 1 Plant is regulated by OSHA under the HAZWOPER Standard because it is a RCRA permitted hazardous waste _____ (TS&D) Facility.

- ☒ True/False - HAZWOPER was established by OSHA to specifically address hazardous waste.
- ☒ True/False - Because the plant is HAZWOPER regulated, 24 hours of training is required initially (within 6 months of assignment to the plant) and 8 hours annually.
- ☒ True/False - A written certificate must be issued to employees that have met the initial training requirements under the HAZWOPER Standard to become officially certified.
- ☒ True/False - A written Hazardous Waste Handling Procedure must be kept by the plant that details operations involving the proper handling and packaging of hazardous waste and the practices used to keep personnel exposures to minimum.
- ☒ True/False - Upon termination of work (termination, transfer, retirement, etc.) in HAZWOPER regulated facilities, employees must be given an opportunity to undergo a physical exam or they must have had a physical exam within the last 6 months.
- ☒ True/False - A Medical Surveillance program is required for all personnel who could be exposed to hazardous substances at or above established exposure limits or who wear a respirator for 30 days or more per year.
- ☒ True/False - If Personal Protective Equipment becomes contaminated, to prevent contaminating other areas of the plant you must remove and/or dispose of it before leaving the area.
- ☒ True/False - It is acceptable to wear your Nomex off of the Solvents / EDC 1 plant site.
- ☒ True/False - Employees whose non-impermeable clothing becomes wetted with hazardous waste shall immediately remove that clothing and proceed to shower.
- ☒ True/False - New or transfer employees must receive 24 hours of HAZWOPER training within 6 months of their assignment.
- ☒ True/False - Operations personnel are classified as Hazardous Materials Technicians under HAZWOPER (OSHA CFR29 § 1910.120 (q) (6.iii)) since they are individuals who respond to releases or potential releases for the purpose of stopping the release.
- ☒ True/False - The facility Emergency Response Plan shall be rehearsed regularly as part of the overall training program for site operations.
- ☒ True/False - Every worker in a RCRA TS&D Facility must have HAZWOPER training, regardless of exposure or potential exposure.

Name the RCRA permitted hazardous waste storage tanks in the plant.

D- 12 D- _____ D- _____ D- _____ D- _____ T- 100/07 V- 200

Name the RCRA non-permitted less than 90 day hazardous waste storage tanks in the plant.

D- _____ D- _____ D- _____ D- _____ T- _____ V- _____

II. HAZCOM (OSHA CFR29 § 1910.1200)

The OSHA Hazard Communication Standard requires that information about the hazards of all hazardous chemicals used in the plant are known by all affected personnel.

The OSHA Hazard Communication Standard requires that all chemicals and _____ be labeled with the Dow ID #.

- ☒ True / ☐ False - A Material Safety Data Sheet is used to convey **information** about the **dangers** of all hazardous **chemicals** in the plant.
- ☒ True / ☐ False - A Material Safety Data Sheet is essentially a technical **bulletin** prepared by the manufacturer of a chemical to convey **information** about the **hazards** of the chemical.
- ☒ True / ☐ False - If you were concerned about the effects of **exposure** to Carbon Tetrachloride, you could find this information in the Solvents / EDC 1 Hazard Communication Manual.
- ☒ True / ☐ False - The Solvents / EDC 1 Hazard Communication Manual is located in the Control Room, Bldg. 1617.

Check the appropriate health concerns of the following:

<u>Chemical</u>	<u>Toxic Through Inhalation</u>	<u>Toxic Through Skin Contact</u>	<u>Human Carcinogenic</u>	<u>Flammable</u>
Asbestos	✓	✓		
Beta-Tri		✓	✓	
Caustic		✓		
Carbon Tetrachloride	✓	✓		
Chlorine	✓			
Ethylene				✓
Ethylene Dichloride		✓		
Hexachloroethane		✓	✓	
Hexachlorobenzene		✓	✓	
Hexachlorobutadiene		✓	✓	
Hydrogen Chloride	✓			
Methylene Chloride		✓		
Perchloroethylene	✓	✓		
Propylene Dichloride		✓		
1,1,2,2 Tetrachloroethane		✓		

- ☒ True / ☐ False - Containers of hazardous materials must be **labeled** if the **ownership** is **transferred** from the person who caught the sample to another person.
- ☒ True / ☐ False - The steps to be taken by **operations personnel** upon discovery of a **leak** or **spill** of a hazardous material are; **don** Personal Protective Equipment, **notify** the control room, **isolate** and **minimize** the incident (if possible), and begin **remediation** (clean-up) when the incident has ended.
- ☒ True / ☐ False - Leather gloves offer excellent **permeation** resistance to solvents.
- ☒ True / ☐ False - It is acceptable to **eat** "Twinkies" and **drink** coffee in **operating** areas of the plant.
- ☒ True / ☐ False - All employees in the Plant must have **Hazard Communications training** **before** work involving **exposure** or **potential exposure** to hazardous materials.