

1992 Annual Vinyl Chloride Training Quiz

Name _____ Badge # _____ Dat _____

True or False:

- ___ 1. Federal regulations require that all open ended valves be blinded, plugged, or double valved.
- ___ 2. One of the purposes for the employee's annual bloodwork is to test for the presence of vinyl chloride in the blood.
- ___ 3. The area monitoring systems located at VCM II, Tri II, and the South Terminal areas are systems installed by PPG for monitoring VCM levels in the air.
- ___ 4. The proper respiratory protection for VCM is a full face mask with double cartridges certified by OSHA for VCM service.
- ___ 5. Since Vinyl Chloride is regulated separately by OSHA, it is not listed in the plant MSDS system.
- ___ 6. The PEL (Permissible Exposure Limit) for VCM is 1 ppm time weighted average for an eight hour period.
- ___ 7. The STEL (Short Term Exposure Limit) for VCM is 5 ppm time weighted average for five minutes.
- ___ 8. VCM has been proven to cause liver cancer in workers after years of repeated exposures to high levels (more that 1000 ppm) of VCM vapors.
- ___ 9. PPG has had only two work related cases of angiosarcoma of the liver due to exposures to VCM.
- ___ 10. VCM is handled in the following places:
 - a. VCM II.
 - b. Triethane II.
 - c. VCM loading areas.(North and South Docks, VCM tankcar loading areas)
 - d. Low Temp Storage (South Terminal).
 - e. VCM I Day tanks and Sphere area.
 - f. North Dock Sphere #3.
 - g. Certainteed pipeline.
- ___ 11. VCM can be detected by the nose at levels low enough to prevent overexposure.
- ___ 12. VCM is normally stored as a liquid in a pressurized vessel or under refrigeration in a low pressure vessel.
- ___ 13. VCM is explosive in the range of 10-50 ppm in air.
- ___ 14. Routine leak patrols are a part of the program to prevent VCM exposure in the work place.
- ___ 15. VCM vapors are heavier than air.

ROSTER FOR TRAINING SESSIONS

CLASS: _____ DATE: _____

INSTRUCTOR: _____

	NAME (Please Print)	BADGE	SUPERVISOR'S NAME/PHONE NUMBER
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DO NOT PRINT NAMES IN THIS SECTION OR ON THE BACK--USE A SEPARATE SIGN-UP SHEET.

1992 Annual Vinyl Chloride Training Quiz
Key

- ___ 1. Federal regulations require that all open ended valves be blinded, plugged, or double valved.

Answer: True. PPG is subject to inspections and large fines if found out of compliance with these and other regulatory requirements.

- ___ 2. One of the purposes for the employee's annual bloodwork is to test for the presence of vinyl chloride in the blood.

Answer: False. Bloodwork is primarily measuring liver function tests that are thought to be a measure of a healthy, working liver. VCM does not remain in the blood due to its high vapor pressure and low solubility in blood.

- ___ 3. The area monitoring systems located at VCM II, Tri II, and the South Terminal areas are systems installed by PPG for monitoring VCM levels in the air.

Answer: True. These systems continuously monitor the levels of VCM in the air and give alarms when the potential for overexposure of workers exists.

- ___ 4. The proper respiratory protection for VCM is a full face mask with double cartridges certified by OSHA for VCM service.

Answer: False. There is no "OSHA certified cartridge for VCM service". The only approved respiratory protection for VCM is an air supplied system such as a Scott Air Pak or a breathing air system.

- ___ 5. Since Vinyl Chloride is regulated separately by OSHA, it is not listed in the plant MSDS system.

Answer: False. VCM can be found in the MSDS system and all employees should know how to locate it to find out what precautions are necessary in safe handling of VCM.

- ___ 6. The PEL (Permissible Exposure Limit) for VCM is 1 ppm time weighted average for an eight hour period.

Answer: True.

- ___ 7. The STEL (Short Term Exposure Limit) for VCM is 5 ppm time weighted average for five minutes.

Answer: False. The STEL for VCM is 5 ppm TWA for "15" minutes rather than for 5 minutes.

- ___ 8. VCM has been proven to cause liver cancer in workers after years of repeated exposures to high levels (more than 1000 ppm) of VCM vapors.

Answer: True.

- ___ 9. PPG has had only two work related cases of angiosarcoma of the liver due to exposures to VCM in its history.

Answer: False. PPG has never had a work related VCM exposure case of ASL.

- ___ 10. VCM is handled in all of the following places:
- a. VCM II.
 - b. Triethane II.
 - c. VCM loading areas. (North and South Docks, VCM tankcar loading areas)
 - d. Low Temp Storage (South Terminal).
 - e. VCM I Day tanks and Sphere area.
 - f. North Dock Sphere #3.
 - g. Pipeline to Certainteed.
 - h. Pipeline between Triethane II and VCM II

Answer: True. VCM in high concentrations (at least 95%) is present in each of the above listed locations.

- ___ 11. VCM can be detected by the nose at levels low enough to prevent overexposure.

Answer: False. The odor detection limit for most persons is in the range of 500-1000 ppm. This is far above the permissible exposure limits for VCM.

- ___ 12. VCM is normally stored as a liquid in a pressurized vessel or under refrigeration in a low pressure vessel.

Answer: True. VCM is stored in pressure vessels such as the spheres, bullets, and day tanks at ambient temperatures (80 degrees F). It is also stored in low pressure, vertical tanks at the South Terminal at refrigerated temperatures (12 degrees F).

- ___ 13. VCM is explosive in the range of 10-50 ppm in air.

Answer: False. VCM is explosive in the range of 3.6 % (36,000 ppm) to 33% (330,000 ppm) in air.

- ___ 14. Routine leak patrols are a part of the program to prevent VCM exposure in the work place.

Answer: True. Operators perform daily equipment rounds and weekly VCM leak patrols to make sure that VCM is being properly contained and to fix and small leaks before they can develop into large ones.

___15. VCM vapors are heavier than air.

Answer: True. VCM vapors are heavier than air (vapor density of VCM is 2.15 as compared to that of air). VCM vapors will drop to the bottom of an air or nitrogen filled vessel. On the other hand, VCM liquid is lighter than water (specific gravity of 0.92) VCM liquid will float on top of water.