

Midwest Consortium 24-Hour Ammonia Posttest Version 1

- _____ 1. Using PPE is lowest on the hierarchy of controls, but is often necessary for emergency response because
- a. Ammonia is only an inhalation hazard.
 - b. Ventilation to remove ammonia may not be possible.**
 - c. PPE is always available near each emission source.
 - d. All the above.
- _____ 2. OSHA enforces regulations regarding use of
- a. Footwear.
 - b. Hard hats.
 - c. Hearing protection.
 - d. All the above.**
- _____ 3. The best source of information on the physical properties of a material (such as vapor density and flashpoint) in the list below is the
- a. DOT placard.
 - b. NFPA label.
 - c. SDS.**
 - d. Shipping manifest.
- _____ 4. Which of the following guidelines or regulations tells you that below a specific concentration, ammonia is 'too lean to ignite'?
- a. Threshold Limit Value
 - b. Lower Explosive Level**
 - c. Permissible Exposure Limit
 - d. Threshold Limit Value--Ceiling
- _____ 5. Which of the following elements should be part of a permit-required confined-space program?
- a. All the following must be included.**
 - b. The confined space atmosphere must be monitored before any entry and during work activity.
 - c. An entrant must wear PPE and safety equipment for the identified hazard(s).
 - d. A safety attendant must be posted outside the entry.

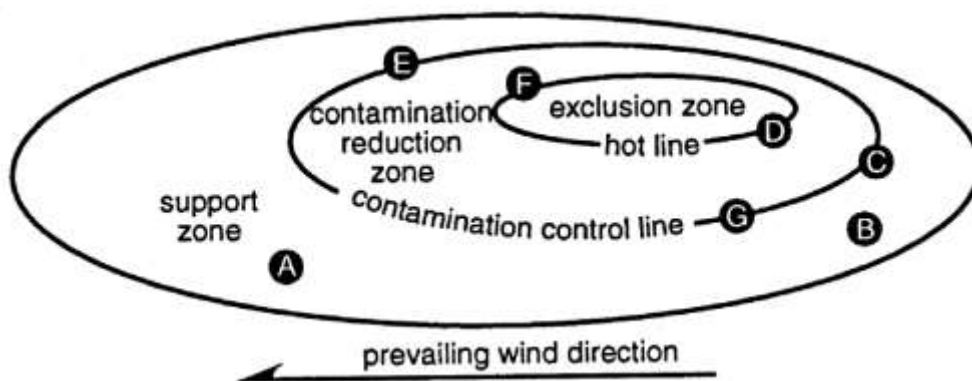
- _____ 6. Which of the following is required in an Emergency Response Plan?
- a. How duties will rotate between operations-level and specialist responders.
 - b. When radios can be used for in-plant communications during the emergency, without a back-up communication system.
 - c. Considering the size of the release in selection of the Incident Commander.
 - d. Pre-emergency planning and coordination with outside parties.**
- _____ 7. What is the proper order for termination activities at an incident response?
- a. Debriefing, critique, cleanup
 - b. Critique, reconstruction, cleanup
 - c. Debriefing, reconstruction, critique**
 - d. Cleanup, debriefing, reconstruction
- _____ 8. The vapor density of ammonia is 0.6. In a release inside a building, the vapors are most likely to
- a. Lay close to the floor.
 - b. Be trapped by the ceiling.**
 - c. Evenly spread throughout a room.
 - d. Be neutralized by nitrogen in the air.
- _____ 9. Which of the following respirators should be used to enter an area that might have an IDLH atmosphere?
- a. Air-purifying respirator with purple cartridge
 - b. Single-use dust mask
 - c. Self-Contained Breathing Apparatus (SCBA)**
 - d. Half-mask with combination cartridge
- _____ 10. You are using a colorimetric tube to determine ammonia concentration. The number of strokes used is
- a. Five.
 - b. Ten.
 - c. As many as needed to get color change.
 - d. Found in the manufacturer instructions.**
- _____ 11. Head and eye/face protective equipment is tested according to methods designed by
- a. ANSI (American National Standards Institute).**
 - b. ACGIH (formerly known as the American Conference of Governmental Industrial Hygienists).
 - c. NIOSH (National Institute for Occupational Safety and Health).
 - d. ASSP (American Society of Safety Professionals).

- _____ 12. You are to monitor the environment in an ammonia release. Which statement is most correct?
- a. It is an emergency--assume the instrument was calibrated recently.
 - b. Do not take the time to "warm up" the instrument; results needed immediately.
 - c. Follow the procedures in the ERP, as you have been trained.**
 - d. Monitor as close as possible to the spill or release point, then back away toward the perimeter.
- _____ 13. All the following combinations of a hand signal and its meaning are correct except one. Which combination is not correct?
- a. Both arms down at sides => need another tool**
 - b. Hands clutching throat => out of air, cannot breathe
 - c. Hands raised above head => need assistance
 - d. One arm horizontal, other hand thumb down => task cannot be completed with current air
- _____ 14. The most common location of an ammonia leak is
- a. Tow-motor collision with a cylinder.
 - b. Evaporator.
 - c. System on/off valve.**
 - d. Compressor.
- _____ 15. Activities during a termination include
- a. Reports from participating responders.
 - b. Inspecting equipment and tagging for repair if needed.
 - c. Documenting response actions.
 - d. All the above.**
- _____ 16. Another name for anhydrous ammonia is
- a. Aqua ammonium.
 - b. Ammonium hydroxide.
 - c. Ammonia.**
 - d. CAS number 42-1.
- _____ 17. As an emergency responder trained at the technician level for ammonia releases, you may perform the following operations when wearing correct protective gear:
- a. All the following.**
 - b. Tighten leaking piping connection.
 - c. Build a dike to contain fogging water.
 - d. Decon other workers and their gear.

- _____ 18. The maximum concentration from which an unprotected person could escape without any irreversible health effects is the
- a. TLV-C
 - b. IDLH**
 - c. TLV-TWA
 - d. TLV-STEL
- _____ 19. Which of the following describes a correct routine respirator positive pressure user check?
- a. Cover the exhalation valve and gently exhale. Air pressure should build up inside the mask.**
 - b. Cover the inhalation valve and gently exhale. Air should escape through the exhalation valve.
 - c. Place your hands over the cartridges of the APR and inhale. No outside air should leak into the face piece.
 - d. With a SCBA, disconnect the regulator, cover the intake port and inhale. No outside air should leak into the face piece.
- _____ 20. A half-face APR is not allowed to prevent ammonia exposure because it
- a. Is more difficult to fit-test.
 - b. Requires frequent cartridge change.
 - c. Does not cover the eyes.**
 - d. Is only reliable up to the PEL.
- _____ 21. What is the color of the DOT placard or label for ammonia?
- a. Orange
 - b. Yellow
 - c. Green**
 - d. Red
- _____ 22. Preplanning or preparation is important for expected monitoring activities during a response. An important reason for this preplanning is to assure
- a. Equipment is ready for immediate use during a response.
 - b. Any repaired equipment has been checked out.
 - c. Skills to use the monitoring devices are up to date.
 - d. All the above are accomplished.**
- _____ 23. Slips, trips and falls are a recognized hazard during a response. All the following may increase the risk of injury from a slip, trip or fall, except:
- a. Slick or wet surfaces.
 - b. Uneven surfaces or debris in your pathway.
 - c. Probing ahead with walking stick.**
 - d. Reduced visibility due to darkness or vapor.

- _____ 24. The ABC Company has authorized the safety officer to halt any ER operation when there is danger of serious injury or illness. Which of the following might be a reason for halting the operation?
- All the following might result in stopping the response.**
 - Four new ER team members did not get to wear their respirators in a test environment before working in them.
 - When they were decontaminated after the last response, the respirators were left outside in a cardboard box.
 - The safety officer observes that three responders wearing APRs have full beards.

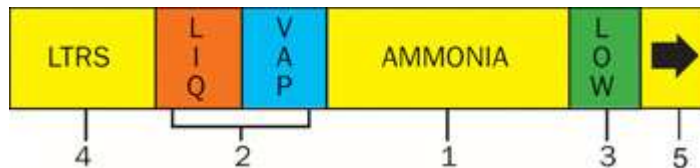
Use this diagram to answer questions 25 and 26 below.



- _____ 25. Where should the Command Post be located?
- Point A
 - Point B**
 - Point C
 - Point D
- _____ 26. Of the locations shown below, responders with the highest level of protection work
- Between G and C
 - Between A and E
 - Between F and D**
 - Between B and G.
- _____ 27. Responders trained at the technician level are certified by the employer to have a wide range of skills. Training in these skills may be provided in a shorter amount of time if
- The responders have worked together for years
 - Team members have a high rate of turnover
 - An on-line program eliminating hands-on skills is used
 - Responder duties are limited on a single chemical**

- ___ 28. Ammonia is soluble in water. Which of the following is true?
- Solubility decreases with increase in water temperature
 - Combining water and ammonia results in a release of heat**
 - Ammonia sinks in a puddle of water mixed with ammonia
 - Weak ammonium hydroxide contains 30% ammonia
- ___ 29. One of the following statements about training for anyone required to use respirators is not correct.
- Must be provided annually by the employer
 - Must be in English**
 - Must include knowledge documentation
 - Must include use in emergencies
- ___ 30. A Standard Operating Procedure is
- Generic, to be tailored to your work.
 - Often the same as a Standard Operating Guide.
 - A description of a task you must be trained to do.**
 - An outline to be completed after use.

Use the figure below to answer questions 31 and 32 below.



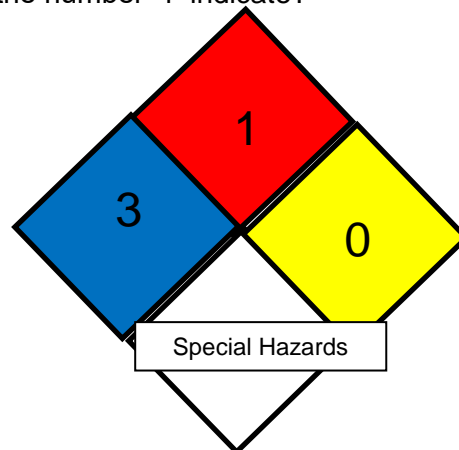
- ___ 31. The LTRS section, identified by the number 4, is completed with
- The PEL value.
 - Process code.**
 - OSHA pictogram.
 - Company name abbreviation.
- ___ 32. The green section, can have the value shown, or
- UNK.
 - EXPL.
 - PSIG.
 - HIGH.**

- _____ 33. The practice of bonding and grounding is used to
- a. **Reduce or eliminate ignition by static electricity.**
 - b. Improve team cohesion.
 - c. Ensure that decontamination is complete.
 - d. Transfer bulk materials only.
- _____ 34. You are in Level A protective gear working to confine an ammonia release when an electrical fire breaks out near you. Which of the following should be your first action?
- a. Help spray foam on the fire to keep it from spreading.
 - b. Determine the correct fire control material from the DOT manual and help to control the fire.
 - c. **Leave the scene because your Level A suit is not protective for fire or possible explosion.**
 - d. Continue to contain the chemical release and let the fire brigade handle the fire.
- _____ 35. Which of the following should a member of the Emergency Response team do when responding to an ammonia release?
- a. **According to the Plan, all the following should be.**
 - b. Check if workers in the area have any symptoms from the release.
 - c. Check if the plant ventilation system is spreading the vapors.
 - d. Leak check the colorimetric tube pump prior to use.
- _____ 36. A large release of ammonia into a cold storage area has resulted in defrosting of product and an accumulation of water in puddles/pools on the floor. As responders enter the space for repair and cleanup, what is a likely value of pH of the water on the floor?
- a. Less than 7
 - b. **Greater than 7**
 - c. Exactly 7
 - d. Need more information
- _____ 37. The type of health effect of ammonia of primary concern to responders is
- a. Systemic, chronic.
 - b. Local, chronic.
 - c. **Local, acute.**
 - d. Systemic, acute.

- ___ 38. What information must be known to wear an air-purifying respirator in an ammonia emergency?
- a. **All the following must be known.**
 - b. All airborne contaminants have been identified.
 - c. Concentration of each airborne contaminant is known.
 - d. Oxygen concentration in the area is measured equal to or greater than 19.5%.

- ___ 39. It is the end of July. You and your buddy are wearing Level C protective clothing and respirators while working in the hot zone. Your buddy gives the “thumb down” sign. Which of the following is your most correct action?
- a. Tell your buddy to go through the decon line and then report the problem to the safety officer.
 - b. Try to signal the safety officer that your buddy is having a problem.
 - c. **Immediately walk with your buddy to the decon line to determine the problem.**
 - d. Remove your buddy’s respirator and try to determine what the problem is.

- ___ 40. In the system shown below, what does the number ‘1’ indicate?



- a. No reactivity hazard
 - b. High health hazard
 - c. **Low fire hazard**
 - d. Radioactive material
- ___ 41. During an on-site ammonia emergency, a safe location to evacuate to is
- a. Upwind, just outside of the exclusion zone.
 - b. Upwind, just outside of the hot line.
 - c. Downwind, just outside the support zone.
 - d. **Determined based on several factors.**
- ___ 42. A lockout tag on a machine or equipment may be removed by
- a. Any employee who understands the operation of the machine or equipment.
 - b. The employer, when operation of the machine or equipment is necessary.
 - c. **The person who placed it.**
 - d. Any of the above, depending on the SOP.

- _____ 43. If a worker discovers an unsafe or unhealthful condition in the workplace, the worker has the right/responsibility to
- a. **Do any of the following.**
 - b. Inform the supervisor.
 - c. Request an OSHA inspection.
 - d. Speak to a compliance officer inspecting the workplace.
- _____ 44. For ammonia, the expansion ratio (the volume of a gas compared with the liquid) is
- a. 90 to 1.
 - b. **850 to 1.**
 - c. MW/29 to 1.
 - d. 760 to 1.
- _____ 45. A pipe has ruptured, and ammonia is released. Monitoring equipment is being charged so is not available. What is the minimum level of protection needed to respond to an unknown concentration?
- a. **Level A**
 - b. Level B
 - c. Level C
 - d. Level D
- _____ 46. One of the following topics is not a required element of a Respiratory Protection Program:
- a. Proper use of respirators in emergency situations.
 - b. **In-house repair of compressors supplying breathing air.**
 - c. Medical evaluations of employees required to use respirators.
 - d. Schedules for cleaning, disinfecting, storing and inspecting.
- _____ 47. The Incident Commander wants to use a different type of glove because cold temperatures may lead to degradation. What does the IC mean?
- a. The cuff is not tight enough to keep fumes out the sleeve.
 - b. The glove was not decontaminated thoroughly before storing.
 - c. **The glove may crack and allow ammonia to go through.**
 - d. Ammonia can go through at the molecular level after 10 minutes.
- _____ 48. CPC inspection is the responsibility of many people, including
- a. The user, prior to donning.
 - b. The receiver, when shipment arrives from the supplier.
 - c. The CPC clerk/administrator, after use and before storage.
 - d. **All the above are involved in inspection.**

- _____ 49. During an ammonia emergency response, unusual postures, lifting, tasks on ladders and unstable or slippery work surfaces especially while wearing PPE put ergonomic stresses on the body. What action can be taken to reduce ergonomic stress?
- a. Hurry to get the task done as quickly as possible.
 - b. Get assistance to carry a 60-pound replacement part.**
 - c. Follow the OSHA Ergonomics standard guidance.
 - d. Bend at the waist to lower risk of head injury.
- _____ 50. Employee responsibilities under OSHA include
- a. Following established safety rules.
 - b. Bringing safety and health concerns to the attention of management.
 - c. Paying for safety gear that can be worn away from the jobsite.
 - d. All the above.**