Hazardous Materials for First Responders

Questions and Answers

From IFSTA Hazmat for First Responders 4th Edition

Product Control

1. Which type of foam is best suited to be used with the rain-down method of application?
p. 486

A.) Alcohol-resistant
B.) High-expansion
*C.) Aqueous film forming
D.) Fluoroprotein

2. Which is effective on spills of flammable and combustible liquids?
p. 482

*A.) Fire-fighting foam
B.) Absorbent pillow
C.) Water
D.) Haz mat blankets

3. Which tactics are designed to reduce the amount of contact the product makes with people?
p. 476

A.) Leak-control
B.) Vapor-control
C.) Fire-control
*D.) Spill-control

4. Aside from on the flames, where should water streams be directed when attempting to prevent a BLEVE?
p. 492

*A.) Top of the tank
B.) Ends of the tank
C.) Sides of the tank
D.) Bottom of the tank

5. Which method is used if the spill can be better handled at another location downstream?
p. 498

A.) Retention
B.) Damming
*C.) Diking
D.) Adsorption

6. What is cooled in the tank when water streams are applied correctly?
p. 492

A.) Shell
B.) Supports
C.) Piping
*D.) Vapor space

7. What is the maximum depth of the fuel that an emulsifier can be used on?
p. 485

*A.) 1 inch (25 mm)
B.) 2 inches (50 mm)
C.) 4 inches (100 mm)
D.) 3 inches (75 mm)

8. Which is NOT a characteristic of fluoroprotein foam?
p. 484

A.) Compatible with simultaneous application of dry-chemical extinguishing agents
*B.) Has a very low degree of water retention
C.) Maintains rather low viscosity at low temperatures
D.) Has a very high degree of heat resistance

9. Which of the following is NOT correct when working with foam applications?
p. 487

*A.) One large application of foam is all that is needed
B.) Reapply aerated foam until the spill is completely covered
C.) The film that precedes the foam blanket does not seal vapors
D.) Water destroys and washes away foam blankets

10. At what level can the responder begin to perform most offensive operations?
p. 489

A.) Awareness
*B.) Technician
C.) Specialist
D.) Operations

11. What may be done as a form of temporary mitigation for radioactive and biological substances?
p. 480

*A.) Covering
B.) Suppression
C.) Adsorption
D.) Retention

12. Which is NOT something that needs to be constantly monitored while performing vapor dispersion?
p. 502

A.) Water stream effectiveness
B.) Wind direction
*C.) Integrity of diking or damming locations
D.) Environmental impact

13. Which foam application method involves deflecting the foam stream off a nearby object and down onto the spill?
p. 486

*A.) Bank-down
B.) Roll-on
C.) Rain-down
D.) Push-off

14. Where must contaminated materials be placed after performing damming operations?
p. 497

A.) General waste
*B.) Marked container
C.) In tool bag
D.) On the apparatus

15. Which type of truck with a 3,500 gallons (13 249 L) capacity or larger may also have an electronically operated shut-down device that can be activated 150 feet (46 m) from the vehicle?
p. 492

A.) MC-341s
B.) MC/DOT 312s
*C.) MC-331s
D.) MC/DOT 306s

16. Which class foam can be used for vapor suppression?
p. 482

A.) Class C
B.) Class D
*C.) Class B
D.) Class A

17. What is the process of applying water to a water-soluble material to reduce the hazard?
p. 488

A.) Dissemination
B.) Dissolution
C.) Neutralization
*D.) Dilution

18. Which is used when spills occur inside structures by controlling the movement of air?
p. 487

*A.) Ventilation
B.) Dilution
C.) Dissolution
D.) Neutralization

19. What is used to determine the required capacity of the retention area when performing dilution?
p. 503

A.) Type of materials involved
B.) Level of terrain's slope
*C.) Rate of flow of the material
D.) Material to be used to dilute

20. Which type of trucks normally do not have emergency shutoff valves?
p. 492

A.) Liquefied gas tanks
B.) Chemical liquid tanks
C.) Cryogenic liquid tanks
*D.) Corrosive liquid tanks

21. Which of the following spill control tactics would NOT be used with a liquid: airborne vapor?
p. 479

A.) Dissolution
*B.) Neutralization
C.) Vapor suppression
D.) Ventilation

22. Which is used to control the flow of a liquid hazardous material?
p. 481

A.) Dissolution
B.) Dispersion
*C.) Retention
D.) Covering

23. Which type of nozzle produce a larger expansion ratio?
p. 486

A.) Solid bore
B.) Master stream
C.) Water fog
*D.) Air-aspirating

24. What is the process of dissolving a gas in water?
p. 488

A.) Neutralization
*B.) Dissolution
C.) Dissemination
D.) Dilution

25. Which characteristic of aqueous film forming foam requires the foam to be reapplied to maintain hot-spill security?
p. 484

A.) High degree of water retention
B.) Poor heat resistance
C.) Has a high expansion ratio
*D.) Rather fast draining

26. What is the last step taken when performing damming operations?
p. 497

A.) Document appropriate information for records
B.) Construct the dam in a proper location
*C.) Advance to decontamination line
D.) Decontaminate tools

27. Which of the following is considered a technician level offensive containment tactic by many experts?
p. 478

A.) Vapor dispersion
B.) Dissolution
*C.) Neutralization
D.) Ventilation

28. Which of the following is NOT a basic application for high-expansion foam?
p. 485

A.) Fixed-extinguishing systems
B.) Class A fire application
*C.) Polar solvent fuels
D.) Concealed spaces

29. What happens when alcohol-resistant AFFF concentrates are applied to polar solvent fuels?
p. 484

*A.) Forms a membrane between the fuel and the finished foam
B.) Floats on top of the fuel and smothers the fire
C.) Evaporates and cools the fuel below
D.) Expands at a ratio of 200:1

30. What is most often used to determine the location of the dike?
p. 498

A.) Type of material involved in the spill
B.) Diking materials available
C.) Number of exposures present
*D.) Natural terrain where the spill has occurred

31. Where will the remote shutoff valve be located on the nonpressure liquid tank?
p. 490

A.) Left rear corner of the tank
B.) Right rear corner of the tank
*C.) Left front corner of the tank
D.) Right front corner of the tank

32. What pH level is desired when conducting neutralization?
p. 488

A.) 5
*B.) 7
C.) 0
D.) 10

33. What are primarily used to control shallow liquid spills?
p. 480

A.) Absorbents
B.) Neutralizers
C.) Diluters
*D.) Adsorbents

34. Which is often used to buy time?
p. 499

*A.) Diversion
B.) Damming
C.) Retention
D.) Diking

35. What does leak containment dictate?
p. 490

A.) Responder touches the material
B.) Responder removes the material
*C.) Responder enters the hot zone
D.) Responder moves the container

36. What is the goal of diking a material spill?
p. 478

A.) Rerouting
*B.) Confining
C.) Diluting
D.) Dispersing

37. Which of the following defensive spill-control tactics is aimed at diluting the concentration of the material?
p. 478

A.) Diking
B.) Absorption
C.) Vapor suppression
*D.) Dissolution

38. What is the main priority of spill control?
p. 477

*A.) Confinement
B.) Containment
C.) Reduction
D.) Suppression

39. What uses pressurized streams of water from hoselines to reduce the concentration of the hazardous material in the air?
p. 487

A.) Vapor suppression
*B.) Vapor dispersion
C.) Dissolution
D.) Ventilation

40. Which part of the ERG can be used to tell you which type of foam you should use?
p. 483

A.) White guide
B.) Yellow guide
*C.) Orange guide
D.) Red guide

41. What is the second step taken when performing vapor suppression?
p. 501

A.) Ensure that all responders have donned appropriate levels of PPE
*B.) Select a location to efficiently and safely perform the vapor suppression operation
C.) Deploy the foam eductor and foam, and advance the hoseline and foam nozzle
D.) Determine the appropriate type of foam for the type of hazardous material present

42. What should be done after the remote shutoff valve has been operated properly?
p. 504-505

A.) Tag the valve as closed
B.) Document the activity log
*C.) Notify the Incident Commander
D.) Proceed to the decontamination line

43. What should be used to break and remove the soil when performing diking operations?
p. 499

A.) Power tools
B.) Tractors
C.) Hands
*D.) Hand tools

44. What is the act of stopping the further release of a material from its container?
p. 489

A.) Refinement
*B.) Containment
C.) Diversion
D.) Confinement

45. What must apply to the mass and velocity of water streams when being used to contain gas being released under pressure?
p. 494

*A.) Must exceed the mass and velocity of the escaping gas
B.) Must match the mass and velocity of the escaping gas
C.) Must be less than the mass and velocity of the escaping gas
D.) Must vary to contain the escaping gas

46. What part of the foam formation process produces the foam bubbles?
p. 483

*A.) Aeration
B.) Application
C.) Piping
D.) Mixing

47. What does the fuel to that helps extinguish a fire in a flammable liquid?
p. 494

A.) Mixes with the burning material
B.) Cools the surrounding air
*C.) Separates the fuel from the air supply
D.) Removes the heat from the fuel

48. What is the most important issue when performing spill control operations?
p. 477

*A.) Safety of responders
B.) Containment
C.) Neutralizing the materials
D.) Protection of the environment

49. Which is used for specific firefighting hazards involving flammable liquids?
p. 494-495

A.) Alcohol-resistant AFFF
*B.) High expansion foam
C.) Fluoroprotein foam
D.) Aqueous film forming foam

50. Which spill control tactic is being used when absorbent booms are placed across a river to control a waterborne liquid contamination?
p. 479

A.) Retention
B.) Dispersion
*C.) Absorption
D.) Damming

51. Which tactic is NOT used to control an airborne gas?
p. 479

A.) Vapor dispersion
B.) Dissolution
*C.) Neutralization
D.) Ventilation

52. What should be used to determine the required capacity of the retention vessel?
p. 500

A.) Elevation of the leak
B.) Type of material leaking
*C.) Rate of flow of the leak
D.) Location of the leak

53. Which of the following is the most commonly used foam concentrate today?
p. 484

A.) Alcohol-resistant AFFF
B.) Fluoroprotein foam
*C.) Aqueous film forming foam
D.) High-expansion foam

54. What determines the defensive measure needed to control the spill?
p. 478

A.) Location of the spill
B.) Amount of material
*C.) Type of dispersion
D.) Number of responders

55. How should the foam be applied when performing vapor suppression operations?
p. 501

A.) Thicker at the edges of the spill
B.) Thicker at the front of the spill
C.) Thicker at the center of the spill
*D.) In an even layer over the spill

56. Which ERG guide does the U.S. Pipeline and Hazardous Materials Safety Administration recommend using when confronted with burning ethanol?
p. 495

*A.) 127
B.) 119
C.) 147
D.) 132

57. What should be given priority if initial water streams are inadequate to cool both the pressurized tank and exposures?
p. 493

A.) Protecting victims
*B.) Cooling the tank
C.) Protecting the exposures
D.) Performing search and rescue

58. What is the first thing that needs to be done when performing absorption?
p. 496

A.) Deploy the sorbent to control the spill
*B.) Verify all responders have appropriate PPE
C.) Select the most appropriate sorbent
D.) Select a location to perform the operation

59. Which of the following is used to measure foam quality?
p. 485

A.) 100-percent-drainage time
B.) 75-percent-drainage time
*C.) 25-percent-drainage time
D.) 50-percent-drainage time

60. Which type of foam is suitable for subsurface injection?
p. 486

A.) Alcohol-resistant AFFF
*B.) Fluoroprotein foam
C.) Aqueous film forming foam
D.) High-expansion foam

61. Which foam should be used when runoff is undesirable?
p. 485

*A.) High-expansion
B.) Alcohol-resistant AFFF
C.) Aqueous film forming
D.) Fluoroprotein