

1. Substances or materials in quantities or forms that may pose an unreasonable risk to health, safety, or property when transported, stored, or used in commerce is a definition for a:

- A. hazard class.
- B. hazardous chemical.
- C. hazardous material.
- D. hazardous substance.

Answer: C

2. When dealing with a radiological incident involving a leak or spill, what exposure guidelines should the hazmat first responder use to minimize radioactive contamination?

- A. Time, distance, half-life
- B. Ionizing radiation, non-ionizing radiation, half-life
- C. Time, distance, shielding
- D. Alpha particles, beta particles, gamma rays

Answer:

3. A reference book intended to be carried in every emergency vehicle in the United States is the:

- A. *IFSTA First Responder Manual*.
- B. *NIOSH Handbook of Hazardous Materials*.
- C. *Emergency Response Guidebook*.
- D. *NFPA Fire Protection Handbook*.

Answer: C

4. The two types of **potential hazards** found in each guide of the Emergency Response Guidebook are:

- A. reactivity and solubility.
- B. spill and leak.
- C. corrosive and flammable.
- D. health and fire/explosion.

Answer: D

5. The steps that are taken to preserve the health and safety of emergency responders and the public during an incident involving releases of hazardous materials are called:

- A. protective actions.
- B. isolating the hazard area and denying entry.
- C. evacuation procedures.
- D. protect in place procedures.

Answer: A

6. To protect themselves and others, first responders must be able to make a proper assessment. The **most important** part of assessment is:

- A. calling for the appropriate help to mitigate the incident.
- B. recognizing the presence of hazardous materials.
- C. determining the appropriate actions to be taken recommended by the ERG.
- D. securing the area of the emergency.

Answer: B

7. All of the following information (to the extent known at the time) should be provided during the notifications **except** the:

- A. cost estimate for cleanup.
- B. chemical name.
- C. estimate of quantity released.
- D. time and duration of release.
- E. name and phone numbers of contacts for further information.

Answer: A

8. **Directions:** Read the statements below and select your answers from alternatives A-D.

Statement 1: Section 304 requires reporting of releases of the extremely hazardous substances listed in Section 302 of SARA, Title III.

Statement 2: Releases resulting in an exposure to a person while at a fixed facility may be exempted from being reported.

Statement 3: Private industry is exempt from notification and reporting requirements in regards to releases of hazardous substances.

- A. Statements 1 and 3 are true; statement 2 is false.
- B. Statements 2 and 3 are true; statement 1 is false.
- C. Statements 1 and 2 are true; statement 3 is false.
- D. Statements 2 and 3 are false; statement 1 is true.

Answer: C

9. Which of the package labels listed below indicates the highest radiation hazard?

- | | |
|---------------------------|--------------------------|
| A. Radioactive White-I | B. Radioactive Yellow-II |
| C. Radioactive Yellow-III | D. Radioactive Blue-III |

Answer: C

10. Federal OSHA 29CFR 1910.1200 and several states have required that local establishments keep a Material Safety Data Sheet on file when:

- A. at a multi-use building.
- B. personnel have not received specialized hazmat training.

- C. hazardous materials are used or stored on site.
- D. backup emergency power is not available.

Answer: C

11. A major difference between a hazardous materials incident and other types of emergencies is the fact that hazmat incidents:

- A. can be more complex.
- B. occur less frequently.
- C. occur more frequently.
- D. occur in specific locations.

Answer: A

12. All cylinders should be considered dangerous, regardless of what type of hazardous material it contains, because the contents are:

- A. flammable.
- B. pressurized.
- C. toxic.
- D. corrosive.

Answer: B

13. The four-digit number appearing on a placard or an orange panel of a tank car is the:

- A. UN product identification number.
- B. capacity of the tank car.
- C. last date the tank car was pressure tested.
- D. tank car registration number.

Answer: A

14. The NFPA 704 System for identifying hazardous materials gives:

- A. general hazard and degree of severity.
- B. specific product identification.
- C. the DOT hazard class.
- D. the UN hazard class.

Answer: A

15. A number 4 in the blue quadrant of the NFPA 704 System indicates that there is _____ risk in this category from the chemical involved.

- A. severe
- B. a slight
- C. no
- D. moderate

Answer: A

16. A white quadrant in the 6 o'clock position of the NFPA 704 System is used to indicate:

- A. health hazards.
- B. flammability.
- C. special hazards.
- D. reactivity.

Answer: C

17. The fact that a product is water reactive would be indicated in the _____ quadrant of the NFPA 704 System.

- A. blue B. red C. white D. yellow

Answer: C

18. For materials in Hazard Class 8 (corrosive), a DOT placard is required if the gross weight is in excess of:

- A. 500 lbs. B. 100 lbs. C. 1000 lbs. D. 5000 lbs.

Answer: C

19. UN/DOT placards indicate general hazard recognition by:

- A. using the numbers 0-4 to indicate relative risk
B. always indicating the product name.
C. giving the UN hazard class number.
D. the shape of the placard.

Answer: C

20. A bill of lading contains valuable information about the origin of the product and is the type of shipping paper used when transporting a product via:

- A. highway truck. B. railway. C. water. D. air.

Answer: A

21. Care and control of the waybill/consist is the responsibility of the:

- A. truck driver. B. train conductor/engineer.
C. ship captain or master. D. aircraft pilot.

Answer: B

22. The normal location for the bill of lading is in the:

- A. wheelhouse. B. cockpit.
C. locomotive. D. cab of the truck.

Answer: D

23. During an incident involving a train, you should look for the shipping papers in any of the following **except**:

- A. the engine. B. the caboose.
C. rail cars carrying the products. D. the engineer's possession.

Answer: C

24. Using the human senses of smell or taste to determine the presence of a hazardous material is:

- A. the best first step.
- B. not reliable if the product is heavier than air.
- C. unreliable, unacceptable, and unsafe.
- D. used only as a last resort.

Answer: C

25. Hazardous occupancies should be identified and evaluated:

- A. en route to an emergency.
- B. during preincident planning.
- C. during training sessions.
- D. at least once a year.

Answer: B

26. Local emergency response personnel can gain valuable information if the _____ is utilized in preincident planning.

- A. ERG
- B. MSDS
- C. Shipping Paper
- D. Bill of Lading

Answer: B

27 T Shipping papers are required to contain an entry for hazard classification
. F according to DOT regulations.

Answer: T

28. When transporting hazardous material, the shipping papers should contain:

- A. emergency contact information.
- B. the proper name of the shipped materials.
- C. the hazard class of the shipment.
- D. All of the above

Answer: D

29. On a placard, the number at the bottom of the diamond indicates the:

- A. UN hazard class.
- B. guide number from the *DOT Emergency Response Guidebook* to be used.
- C. UN product identification number.
- D. relative risk.

Answer: A

30. The DOT Placarding System requires a vehicle carrying over 1001 pounds of corrosive to display a _____ placard.

- A. yellow
- B. white over black

C. white

D. black and yellow

Answer: B

31. The DOT Placarding System requires a vehicle carrying nonflammable compressed gas to display a placard colored:

A. red.

B. yellow.

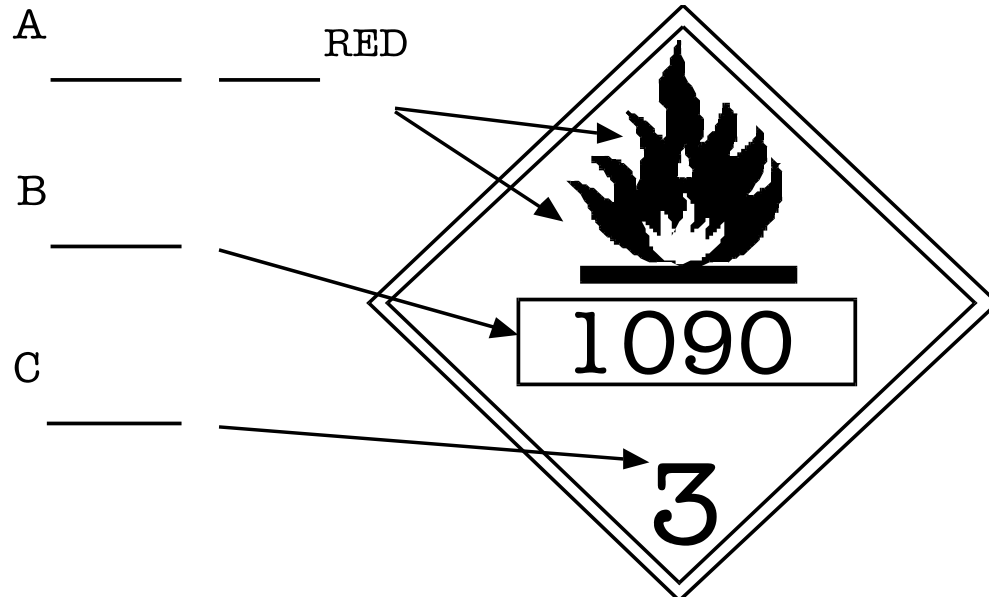
C. green.

D. orange.

Answer: C

32. **Directions:** (*Caution. This is a two step question worth 3 points.*)

This placard is placed on transport vehicles that are transporting flammable liquids. Label the parts on the placard by placing the number in the blank next to the letter which identifies it. **Then**, select the sequence of answers that match yours from A-D below.



1. United Nations Hazard Class Number
2. UN Product Identification Number
3. Hazard Class Symbol
4. National Classification System, Identifies Class or Division

A. 4, 2, 3

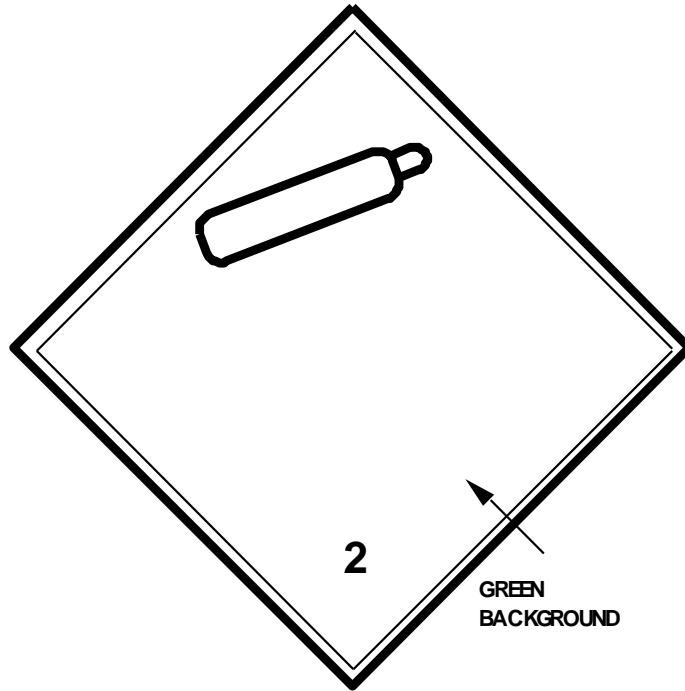
B. 2, 1, 3

C. 3, 2, 1

D. 4, 3, 2

Answer: C

33. The placard drawing below represents which of the following hazard classes?



- A. Explosives
- B. Nonflammable gas
- C. Flammable solid
- D. Oxidizer

Answer: B

34. A type of gas that can be extremely toxic and is considered by the DOT to be a hazardous material is a(n):

- A. poison gas.
- B. pressurized gas.
- C. inorganic gas.
- D. inert gas.

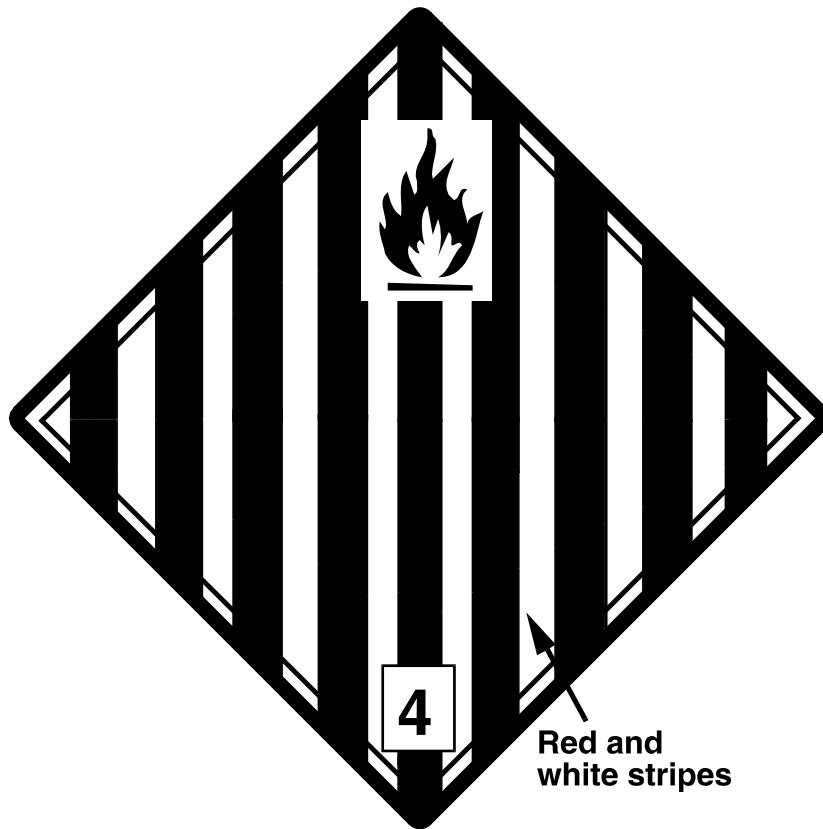
Answer: A

35. Liquid or solid substances that emit toxic, dangerous, and irritating fumes are known as:

- A. poisonous materials.
- B. pyrophoric materials.
- C. etiological agents.
- D. cryogenic materials.

Answer: A

36. Which of the following hazard classes is represented by the placard drawing below?

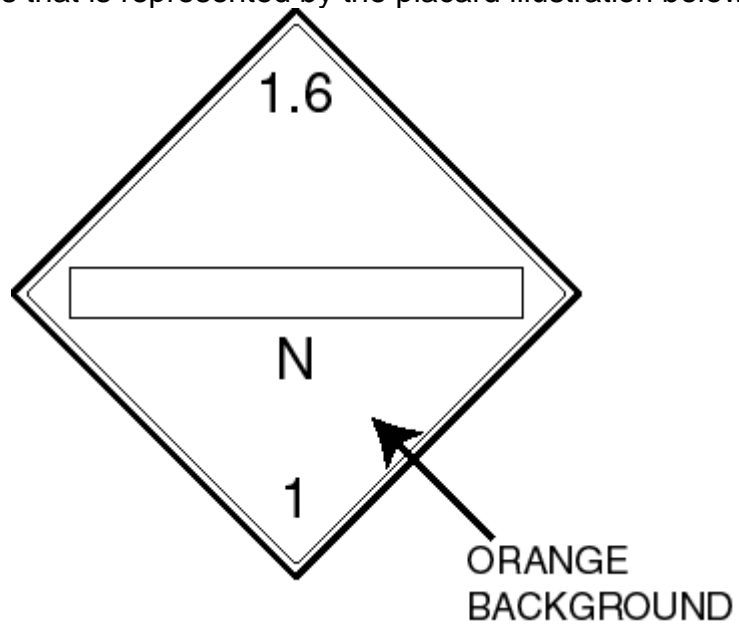


A. Explosives
C. Flammable solids

B. Nonflammable gases
D. Oxidizers

Answer: C

37. The hazard class that is represented by the placard illustration below is:

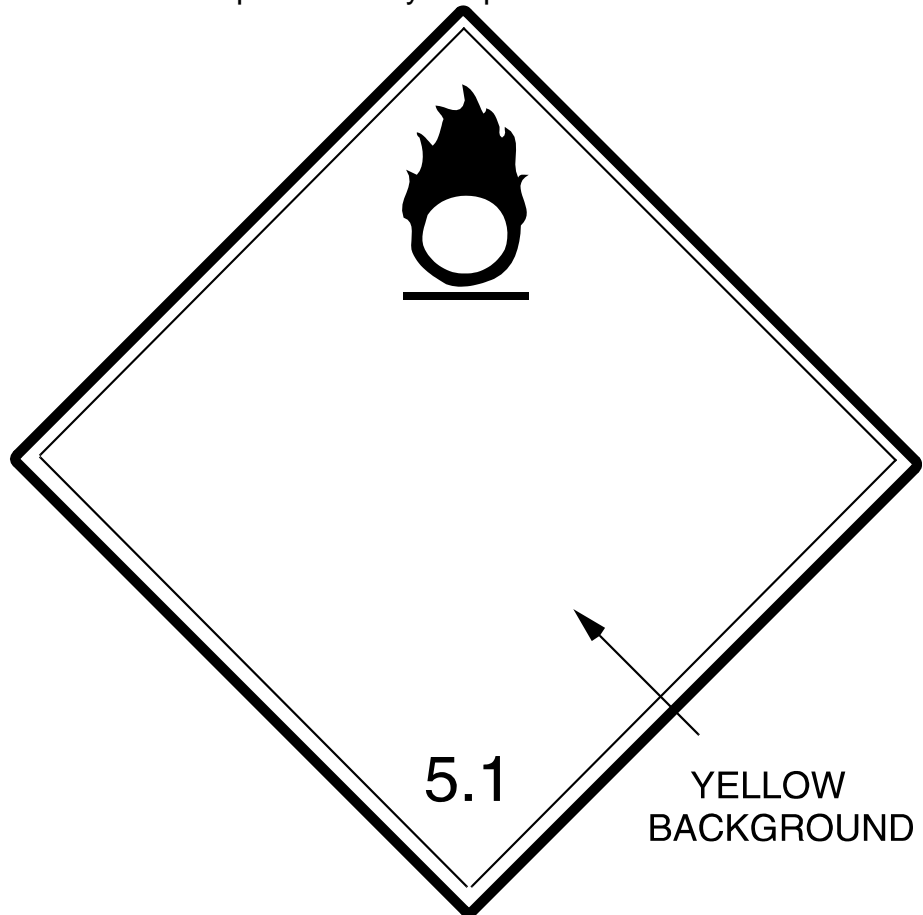


- A. explosives.
- C. flammable solids.

- B. nonflammable gases.
- D. oxidizers.

Answer: A

38. The hazard class represented by the placard illustration below is:

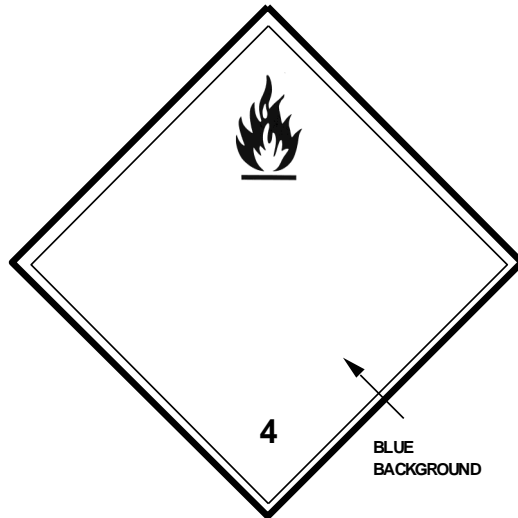


- A. explosives.
- C. flammable solids.

- B. nonflammable gases.
- D. oxidizers.

Answer: D

39. The hazard class represented by the placard illustration below is:

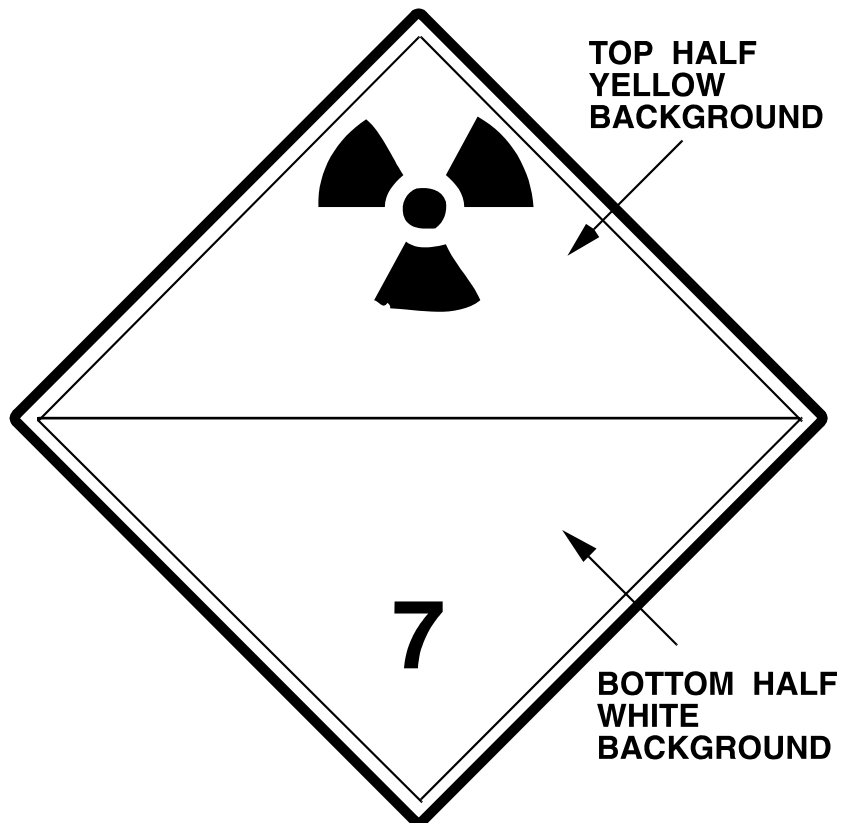


A. dangerous when wet.
C. health hazard.

B. combustibles.
D. oxidizers.

Answer: A

40. The hazard class represented by the placard illustration below is:



A. radioactives.

B. poison gases.

C. flammable liquids.

D. corrosives.

Answer: A

41. The hazard class that is represented by the placard drawing below is:



A. radioactives.

B. poison gases.

C. poison liquids.

D. corrosives.

Answer: B

42. The placard drawing below represents which of the following hazard classes?



A. Poisons

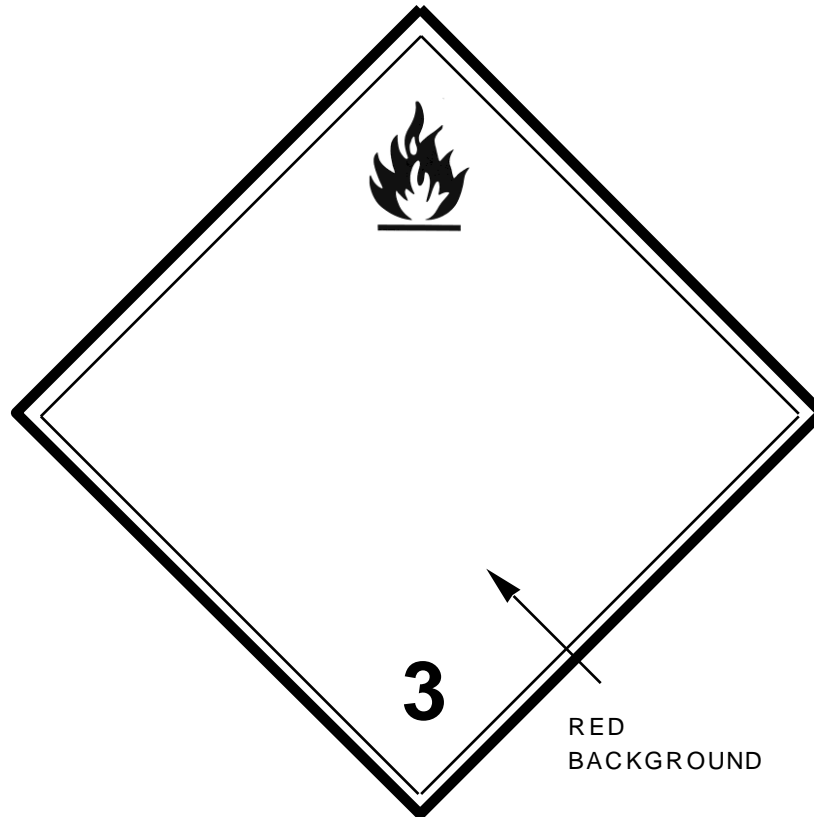
B. Oxidizer

C. Flammable gases

D. Corrosives

Answer: D

43. The placard illustration below represents which of the following hazard classes?



- A. Flammable gases
- C. Flammable liquid/combustible

- B. Corrosives
- D. Explosives

Answer: C

44. Which of the following labels indicate the product is a gas?

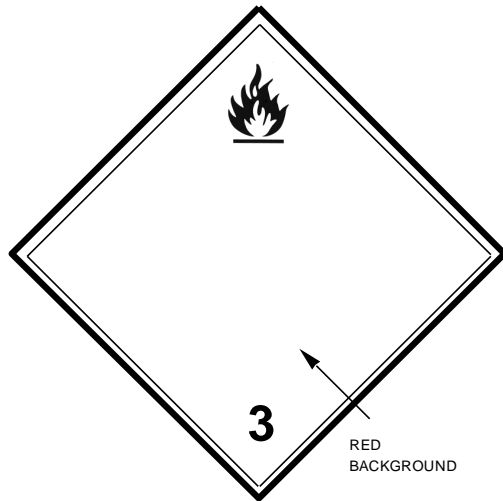
A.



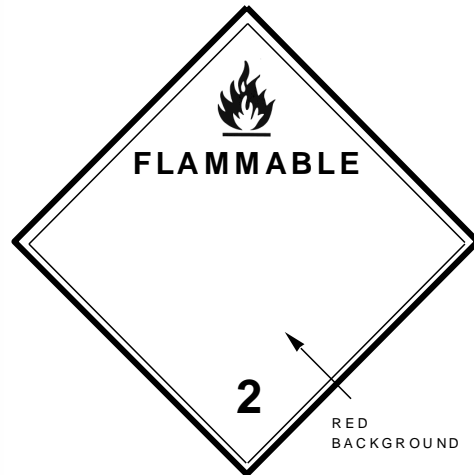
B.



C.



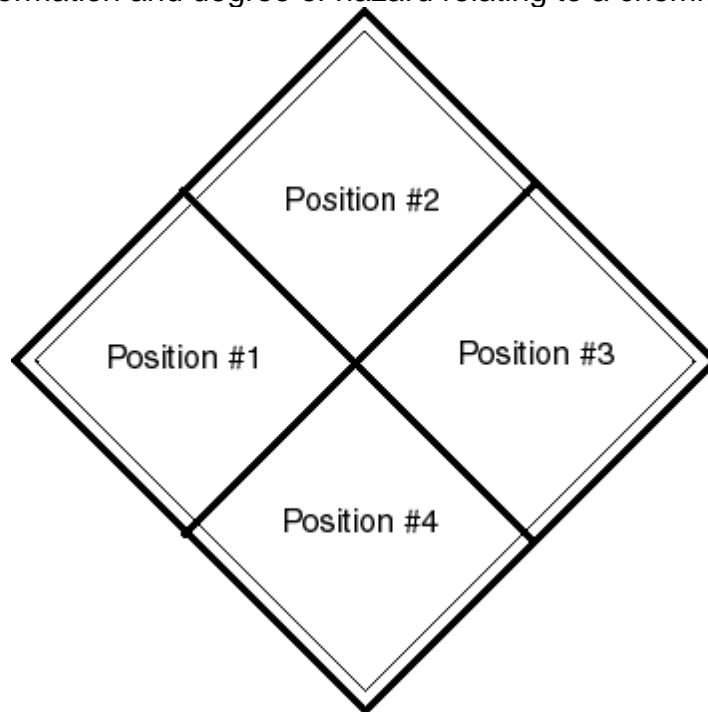
D.



Answer: D

45. **Directions:** Given the illustration below of an NFPA 704 placard, answer this and the following three questions.

Position # 1 is the information and degree of hazard relating to a chemical's:



A. flammability (red).

C. special information (white).

B. health (blue).

D. reactivity (yellow).

Answer: B

46. Position # 2 is the information and degree of hazard relating to a chemical's:

- A. flammability (red).
- B. health (blue).
- C. reactivity (yellow).
- D. special information (white).

Answer: A

47. Position # 3 is the information and degree of hazard relating to a chemical's:

- A. special information (white).
- B. health (blue).
- C. reactivity (yellow).
- D. flammability (red).

Answer: C

48. Position # 4 is the information and degree of hazard relating to a chemical's:

- A. health (blue).
- B. flammability (red).
- C. reactivity (yellow).
- D. special information (white).

Answer: D

49. In the NFPA 704 System of Identification, the diamond-shaped placard used for fire hazard is **always** colored:

- A. blue.
- B. yellow.
- C. red.
- D. white.

Answer: C

50. The National Fire Protection Association (NFPA) lists _____ as the standard for identifying chemical hazards of materials at fixed facilities.

- A. 704
- B. 1991
- C. 472
- D. 1910.120

Answer: A

51. In the NFPA 704 System, the quadrant dealing with reactivity is colored:

- A. blue.
- B. yellow.
- C. red.
- D. white.

Answer: B

52. A Hazard Class of **3**, within the U.N. Labeling System indicates a _____ product.

- A. flammable gas
- B. flammable solid
- C. flammable/combustible liquid
- D. poisonous liquid

Answer: C

53. A substance that readily yields oxygen to support combustion of fuels, would be labeled Hazard Class _____ under the U.N. Labeling System.

- A. 3
- B. 5
- C. 7
- D. 9

Answer: B

54. A container of flammable solids would receive a UN Label or placard with a hazardous classification number of:

- A. 1. B. 2. C. 3. D. 4.

Answer: D

55. Using the DOT Labeling System, a flammable liquid would receive a hazard classification of:

- A. 1. B. 2. C. 3. D. 4.

Answer: C

56. Within the UN System, a container labeled with a Hazard Class 4 contains a:

- A. combustible liquid. B. flammable gas.
C. flammable solid. D. flammable liquid.

Answer: C

57. Of the references listed below, the most specific source of information on a hazardous material is/are:

- A. the DOT Emergency Response Guidebook.
B. the Material Safety Data Sheet (MSDS).
C. DOT Placards.
D. the NFPA 704 System.

Answer: B

58. Physical data, chemical name, exposure limits, health hazard data, and special precautions are all parts of the:

- A. Dangerous Cargo Manifest. B. Emergency Response Guidebook.
C. Material Safety Data Sheet. D. UN Identification System

Answer: C

59. The background color of a placard that would signify a poisonous substance hazard and that contains a skull and crossbones is:

- A. yellow. B. orange. C. red. D. white.

Answer: D

60. Referring to the U.S. Military Marking System for Hazardous Materials, an octagon-shaped placard with a #1 on it denotes a:

- A. moderate fire hazard. B. chemical fire hazard.
C. mass detonation. D. mass escape.

Answer: C

61. Referring to the U.S. Military Marking System for Hazardous Materials, the symbol for a mass fire hazard is:

- A. #3 in a triangle.
- B. #1 in a square.
- C. #2 in a square.
- D. #4 in a circle.

Answer: A

62. An explosive with a fragment hazard is denoted by the U.S. Military Marking System as a:

- A. #3 in an X.
- B. #4 in an X.
- C. #2 in an X.
- D. #4 in a circle.

Answer: C

63. When referring to the U.S. Military Marking System, if a circle with a symbol of a person wearing a mask is seen, it is necessary to assume that:

- A. a protective mask or breathing apparatus must be used.
- B. fumigants are being used.
- C. turn-out clothing must be used.
- D. hazardous material is of an odorous nature.

Answer: A

64. A tractor-trailer carrying 975 lbs. of organic peroxides, other than Type B, requires:

- A. a white placard.
- B. an orange placard.
- C. a yellow placard.
- D. no placard.

Answer: D

65. The NFPA 704 System provides the:

- A. general hazard information.
- B. product's chemical name.
- C. four-digit UN number.
- D. number used to look up the product's name.

Answer: A

66. The **primary** hazard of an oxidizer in a fire is its ability to:

- A. disintegrate tissue and steel.
- B. accelerate combustion.
- C. form combustible mixtures in air.
- D. cause harm when inhaled.

Answer: B

67. The DOT Hazard Class 2 includes:

- A. flammable solids.
- B. poison liquid.

C. nonflammable gases.

D. corrosive poisons.

Answer: C

68. The DOT Hazard Class 1 includes:

A. flammable solids.

B. explosives.

C. corrosives.

D. nonflammable gases.

Answer: B

69. The DOT Hazard Class 6 includes all of the following **except**:

A. liquid poisons.

B. infectious substances.

C. poison solids.

D. poison gases.

Answer: D

70 T Placards that contain the DOT Class number 6 at the bottom identify
. F a material that may be an infectious substance hazard.

Answer: T

71. The NFPA 704 System indicates hazardous materials as:

A. potential dangers.

B. a chemical name.

C. a four-digit number.

D. a number used to look up the name of the product.

Answer: A

72. In using the various clues for detecting the presence of hazardous materials, the use of _____ would be considered the **most** dangerous.

A. hearing

B. vision

C. the sense of smell

D. binoculars

Answer: C

73. The placard shown indicates that the material is considered to be:



- A. corrosive.
- B. combustible.
- C. poisonous.
- D. polymer.

Answer: C

74. The **least** likely location for terrorist activity of the following choices is:

- A. public assembly.
- B. mass transit systems.
- C. telecommunication facilities.
- D. a remote government facility in a rural area.

Answer: D

75. According to the NFPA 704 System, the most dangerous chemical would have a placard showing which of the following number sets?

- A. 4, 4, 2
- B. 3, 2, 1
- C. 0, 2, 4
- D. 3, 3, 2

Answer: A

76. Under SARA Title III, some facilities are required to have MSDS information. The **primary** consideration in determining whether a facility is required to have MSDS information is whether the facility:

- A. is located within 1000 feet of residential neighborhoods.

- B. has chemicals that are not consumer quantities.
- C. has 24-hour security.
- D. has an area under one roof that is greater than 250,000 square feet.

Answer: B

77. A document developed by the manufacturer listing specific hazards of a product is called:

- A. a hazard list.
- B. a bill of lading.
- C. the NFPA 704 System.
- D. the Materials Safety Data Sheet.

Answer: D

78. The number _____ would be shown in the Flammability Quadrant of the NFPA 704 System for a material that must be moderately heated before ignition can occur and on which water spray may be used to extinguish a fire.

- A. 1
- B. 2
- C. 3
- D. 4

Answer: B

79. A substance that readily yields oxygen to support combustion of fuels would be labeled _____ under the UN Labeling System.

- A. 3
- B. 5
- C. 7
- D. 9

Answer: B

80. During a suspected terrorist event, the outward warning indicator(s) that responders should be alert to is/are:

- A. strong chemical odors without apparent reason.
- B. unexplained patterns of illness or death.
- C. unusual containers that are out-of-place with the surroundings.
- D. All of the above.

Answer: D

81. A tractor trailer hauling gasoline should display a placard with the Hazard Class:

- A. Red, 3.
- B. Blue, 4.
- C. Red, 2.
- D. Red White Stripe, 4.

Answer: A

82. _____ is placed on highway transport vehicles to identify the contents.

- A. A placard
- B. Material Safety Data Sheet
- C. A container ID
- D. The manufacturer's name

Answer: A

83. During the recognition and identification of a facility, the firefighter should utilize the NFPA 704 System to identify the:

- A. amount of product stored.
- B. flammability of the material.
- C. signs and symptoms of exposure.
- D. specific chemical stored.

Answer: B

84. Toxic substances that are living materials or are obtained from living organisms are called:

- A. biological agents.
- B. chemical agents.
- C. nuclear agents.
- D. incendiary agents.

Answer: A

85. During transport, the party responsible for the waybill should be the:

- A. pilot.
- B. driver.
- C. captain.
- D. conductor.

Answer: D

86. The person responsible for control of the air-bill papers is the:

- A. pilot.
- B. co-pilot.
- C. flight attendant.
- D. material owner.

Answer: A

87. Shipping papers are referred to as _____ and usually stored _____, in air transport.

- A. dangerous cargo manifest; in the cockpit
- B. waybill; in the cargo compartment
- C. air bill; in the cockpit
- D. bill of lading; in the cargo compartment.

Answer: C

Directions: Match the EPA signal word, from Column A, with its meaning in Column B.

Column A

Column B

- 88. Danger
- 89. Caution
- 90. Warning

- A. Moderate toxicity

- B. High toxicity
- C. Relatively low toxicity
- D. Non-toxic

Answer: B,C,A

91. Which of the following **is not** a signal word found on pesticide labels?

- A. Danger
- B. Warning
- C. Toxic
- D. Caution

Answer: C

92. In which of the following locations would you expect to encounter hazardous materials?

- A. Private residences
- B. Doctors' offices
- C. Hardware stores
- D. All of the above.
- E.
- F.

Answer: D

93. In general, as compared to the standard emergency incident faced by a first responder, a Haz Mat incident will:

- A. be less complex.
- B. require less manpower.
- C. require the same equipment.
- D. be more complex.

Answer: D

94. Which of the following **is not** required on a pipeline marker?

- A. Pipeline contents
- B. Pipeline owner
- C. Pipeline depth underground
- D. Emergency contact number

Answer: C

95. Which of the following types of events should raise your awareness of possible terrorism involvement?

- A. Warehouse fire
- B. Tanker truck accident
- C. Ruptured drum
- D. Non-trauma mass casualty incident

Answer: D

96. Which of the following occupancy or location types would be considered a possible target for terrorism?

- A. Symbolic and historic
- B. Public buildings or assembly areas
- C. Controversial businesses
- D. Infrastructure systems
- E. All of the above
- F.

Answer: E

97. What are some of the on-scene warning signs that may be present in a terrorist event

involving chemical or biological agents?

- A. Unexplained patterns of illnesses or death
- B. Unexplained signs and symptoms of skin, eye, or airway irritation
- C. Recognizable odors and/or taste
- D. Unexplained vapor clouds, mist, and plumes
- E. All of the above.

Answer: E

98. What are some factors that should raise your awareness of possible terrorism involvement?

- A. Occupancy or location
- B. Type of event
- C. Timing of event
- D. On-scene warning signs
- E. All of the above.

Answer: E

Directions: Match the term in Column A with its definition in Column B.

Column A

Column B

- 99. Hazardous Material
- 100. Hazardous Waste
- 101. Hazardous Chemical
- 102. Extremely Hazardous Substance

- A. Any chemical that is a physical hazard or health hazard
- B. Any chemical that must be reported to the appropriate authorities if released above the threshold report quantity
- C. Any substance designated via the Federal Water Pollution Control Act
- D. A substance or material, including a hazardous substance, that has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce
- E. Any material that is subject to the Hazardous Waste Manifest Requirements of the U.S.

Environmental Protection Agency

Answer: D,E,A,B

103. With respect to the U.S. Military Marking System for Hazardous Materials, which of the following **is not** one of the three special hazard symbols?

- A. Apply No Water (bucket of water being thrown onto a fire with a diagonal slash within a circle)
- B. Apply No Dry Chemical (fire extinguisher discharging chemical onto a fire with a diagonal slash within a circle)
- C. Chemical Hazard (person in an encapsulated suit within a circle)
- D. Wear Protective Mask or Breathing Apparatus (person's face with a protective mask in place within a circle)

Answer: B

104. **Directions:** Read the statements below and select your answer from alternatives A-D.

Statement 1: In urban or suburban locales, hazardous materials can be found in service stations, hardware stores and doctor's offices.

Statement 2: In rural areas, hazardous materials can be found in agricultural stores or co-ops, farm buildings, and residences.

Statement 3: The size of a community determines the potential for hazardous materials.

- A. All three statements are true.
- B. Statement 1 is true; statements 2 and 3 are false.
- C. Statements 1 and 2 are true; statement 3 is false.
- D. Statements 2 and 3 are true, statement 1 is false.

Answer: C

105. **Directions:** Read the following statements regarding pesticide labeling and select your answer from alternatives A-D.

Statement 1: EPA labels on pesticides must contain one of the signal words DANGER/POISON, WARNING or CAUTION.

Statement 2: The word WARNING is used on labeling for packages containing highly toxic materials.

Statement 3: The signal words EXTREMELY FLAMMABLE are also displayed if package contents have a flash point below 80°F.

- A. Statement 1 is true; statements 2 and 3 are false.
- B. Statements 1 and 2 are true; statement 3 is false.
- C. Statements 1 and 3 are true; statement 2 is false.
- D. All three statements are true.

Answer: C

106. The manufacturing and labeling of pesticides is regulated by:

- A. OSHA (Occupational Safety and Health Administration).
- B. EPA (Environmental Protection Association).
- C. CERCLA (Comprehensive Environmental Response and Liability Act).
- D. FEMA (Federal Emergency Management Association).

Answer: B

107. Where are pipeline owners required to place, pipeline markings (and first responders can expect to find them)?

- A. At the origin and destination points of the underground pipeline only
- B. Wherever the underground pipeline passes in close proximity to highly populated areas only
- C. Only wherever the underground pipeline crosses state or provincial borders
- D. At any place the underground pipeline crosses a mode of transportation

Answer: D

108. Which of the following agencies regulates pipelines that carry hazardous materials across state borders, navigable waterways and federal lands?

- A. EPA (Environmental Protection Association)
- B. DOT (Department of Transportation)
- C. CERCLA (Comprehensive Environmental Response Compensation & Liability Act)
- D. FEMA (Federal Emergency Management Association)

Answer: B

109. Of the following, which is the quickest available source of MSDS for first responders at a hazmat emergency?

- A. The supplier of the material
- B. The Local Emergency Planning Committee
- C. CHEMTREC
- D. OSHA

Answer: C

110. **Directions:** Read the statements below and select your answer from alternatives A-D.

Statement 1: If placards are clearly displayed on the transportation mode,

shipping papers are not required.

Statement 2: If a transportation mode is not carrying hazardous materials, there is no requirement for specific information to be provided on shipping papers.

Statement 3: Shipping papers must contain the proper name of the chemical or its hazard class.

- A. All three statements are true.
- B. Statement 1 is true; statements 2 and 3 are false.
- C. Statements 1 and 3 are true; statement 2 is false.
- D. Statements 2 and 3 are true; statement 1 is false.

Answer: D

111. **Directions**: Read the statements below and select your answer from alternatives A-D.

Statement 1: When carrying hazardous materials, a transportation mode must carry shipping papers.

Statement 2: Shipping papers may include a packing group number listed as I, II, or III.

Statement 3: The higher the packing group number, the more dangerous the chemical is.

- A. Statement 1 is true; statements 2 and 3 are false.
- B. Statements 1 and 2 are true; statement 3 is false.
- C. Statements 2 and 3 are true; statement 1 is false.
- D. All three statements are true.

Answer: B

Directions: Match the shipping paper type in Column A with its location on the transportation mode, located in Column B.

Column A

Column B

- 112. Bill of Lading
- 113. Waybill/Consist
- 114. Dangerous Cargo Manifest
- 115. Air Bill

- A. Cockpit
- B. Wheelhouse, bridge or pipe-like

- container (on a barge)
- C. Engine or caboose
- D. Cab of vehicle
- E. Cargo hold

Answer: D,C,B,A

Directions: Match the mode of hazmat transportation in Column A with the person responsible for having the shipping papers in that mode of transportation, located in Column B.

Column A

Column B

- 116. Air
- 117. Rail
- 118. Highway
- 119. Water

- A. Driver
- B. Captain or master
- C. Conductor
- D. Pilot
- E. Purser

Answer: D,C,A,B

Directions: Match the shipping paper type in Column A with its mode of transportation in Column B.

Column A

Column B

- 120. Airbill
- 121. Bill of Lading
- 122. Dangerous Cargo Manifest
- 123. Waybill/Consist

- A. Highway
- B. Rail
- C. Water
- D. Air
- E. Space

Answer: D,A,C,B

124. Who is responsible for care and control of a bill of lading?

A. Conductor/crew

B. Driver

C. Captain or Master

D. Pilot

Answer: B

125. Who is responsible for care and control of a dangerous cargo manifest?

A. Captain or master

B. Conductor/crew

C. Driver

D. Pilot

Answer: A

126. Who is responsible for care and control of an air bill?

A. Captain or master

B. Conductor/crew

C. Pilot

D. Driver

Answer: C

127. Where would a first responder expect to find a dangerous cargo manifest?

A. Bridge or pilot house

B. Engine or caboose

C. Cockpit

D. Cab of the vehicle

Answer: A

128. Where would a first responder expect to find a waybill or consist?

A. Cab of the truck

B. Cockpit

C. Bridge or pilot house

D. Engine or caboose

Answer: D

129. Where would a first responder expect to find an airbill?

A. Cab of the vehicle

B. Cockpit

C. Engine or caboose

D. Bridge or pilot house

Answer: B

130. Which of the following **is not** an indication of a physical action?

A. Activated pressure-relief devices

B. Pinging or popping of heat-exposed vessels

C. Wavy vapors over the surface of a liquid puddle

D. Wavy vapors over water surfaces

Answer: D

131. **Directions:** Read the following statements regarding hazmat recognition and identification and select your answer from alternatives A-D.

Statement 1: There are numerous informal ways to recognize the presence of hazardous materials.

Statement 2: Using the senses of sight, sound, and odor is one of the informal ways of recognizing the presence of hazardous materials.

Statement 3: Using the human senses indiscriminately to detect the presence of hazmat, while fairly reliable, is unsafe.

- A. All three statements are true.
- B. Statement 1 is true; statements 2 and 3 are false.
- C. Statements 1 and 2 are true; statement 3 is false.
- D. Statements 2 and 3 are true; statement 1 is false.

Answer: C

132. The senses which are acceptable for use in hazmat detection are:

- | | |
|-----------------------------|-----------------------|
| A. touch, smell, and taste. | B. vision and smell. |
| C. vision and hearing. | D. smell and hearing. |

Answer: C

133. You have arrived on the scene of an incident involving an explosion. People in the immediate vicinity are all experiencing runny noses and difficulty breathing. Some are having convulsions. You suspect a terrorist incident involving a:

- | | |
|----------------------|-------------------|
| A. biological agent. | B. blister agent. |
| C. nerve agent. | D. blood agent. |

Answer: C

134. While extinguishing a small fire in an unoccupied house, you discover a lab setup and numerous types of raw materials. There is particularly a large amount of powders. What type of illegal activity might be occurring here?

- | | |
|----------------------------------|------------------------------|
| A. Explosive manufacturing | B. Drug production |
| C. Biological weapons production | D. Chemical agent production |

Answer: A

135. In the course of extinguishing a small fire in an unoccupied house you discover the presence of chemicals and lab equipment, an indicator of possible illegal activity. According to statistics, the most likely illegal activity occurring is:

- | | |
|-----------------|--------------------------------|
| A. bomb making. | B. warfare agent research. |
| C. drug making. | D. terrorism agent production. |

Answer: C

136. Using the nuclear, biological and chemical (NBC) classification, which of the following **is not** considered a biological warfare agent?

- A. Mycotoxins
- B. Tularemia
- C. Plague
- D. Soman

Answer: D

137. Of the following biological or chemical agents, which is the **easiest** for a terrorist to make?

- A. Ricin
- B. Vesicants
- C. Nerve agents
- D. Blood agents

Answer: A

138. **Directions:** Read the statements below and select your answer from alternatives A-D.

Statement 1: Nerve agents were designed for one purpose--to kill people.

Statement 2: Blood and choking agents, while being terrorism agents, are also common industrial chemicals.

Statement 3: Biological agents are the easiest of the categories of warfare agents to make.

- A. Statement 1 is true; statements 2 and 3 are false.
- B. Statements 1 and 2 are true; statement 3 is false.
- C. Statement 1 is false; statements 2 and 3 are true.
- D. All three statements are true.

Answer: D

139. The acronym SLUDGEM is used to describe the signs and symptoms of exposure to which of the categories of warfare agents?

- A. Nerve agents
- B. Vesicants
- C. Blood and choking agents
- D. Biological agents

Answer: A

140. Blister agents belong in which category of warfare agents under the CBRNE classification?

- A. Biological
- B. Incendiary
- C. Chemical
- D. Explosive

Answer: C

141. **Directions:** Read the statements below and select your answer from alternatives A-D.

Statement 1: Federal public buildings are prime targets for terrorist attacks.

Statement 2: Social Security buildings would be an exception to statement 1, above.

Statement 3: Virtually all terrorist attacks are directed toward public buildings.

- A. Statements 1 and 2 are true; statement 3 is false.
- B. Statements 1 and 3 are true; statement 2 is false.
- C. Statement 1 is true; statements 2 and 3 are false.
- D. All three statements are true.

Answer: C

142. Which of the following are signs and symptoms of exposure to a nerve agent at a Haz mat or suspected terrorism incident?

- A. Eye and respiratory irritation
- B. Dizziness and difficulty in breathing
- C. Loss of bladder control and vomiting
- D. Fever and muscle tenderness

Answer: C

143. Using the nuclear, biological and chemical (NBC) classification, which of the following

is not considered a chemical warfare agent?

- A. Sarin
- B. Mustard
- C. Ricin
- D. Tabun

Answer: C

144. **Directions:** You have arrived on the scene of a Haz mat incident. Read the statements below and determine if you are dealing with a chemical or biological incident. Then select your answer from Alternatives A-D.

Statement 1: Victims have lost control of their bowels--you suspect a nerve agent.

Statement 2: Victims complain of not feeling well after inhaling an airborne white powder a few days earlier--you suspect a biological agent.

Statement 3: Victims are exhibiting pinpoint pupils, runny noses and difficulty breathing--you suspect a biological agent.

- A. Statement 1 is false; statements 2 and 3 are true.
- B. Statements 1 and 2 are false; statement 3 is true.
- C. Statements 1 and 2 are true; statement 3 is false.
- D. Statement 1 is true; statements 2 and 3 are false.

Answer: C

145. **Directions:** Read the statements below and select your answer from alternatives A-D.

Statement 1: Biological agents are very easy for terrorists to distribute effectively.

Statement 2: The two most popular biological agents among terrorists are anthrax and ricin.

Statement 3: Biological agents are the easiest warfare agent classification for terrorists to make.

- A. Statements 2 and 3 are true; statement 1 is false.
- B. Statement 1 is true; statements 2 and 3 are false.
- C. Statement 3 is true; statements 1 and 2 are false.
- D. All three statements are true.

Answer: A

146. **Directions:** Read the statements below and select your answer from alternatives A-D.

Statement 1: Examples of nerve agents are sarin, soman, and V agent.

Statement 2: Nerve agents were designed with only one purpose in mind: to kill people.

Statement 3: Nerve agents are very effective due to their high vapor pressure, which allows them to readily vaporize.

- A. Statement 1 is false; statements 2 and 3 are true.
- B. Statements 1 and 2 are true; statement 3 is false.
- C. Statements 1 and 3 are true; statement 2 is false.
- D. All three statements are true.

Answer: B

147. Given the product name, you can find the four-digit UN/DOT number assigned by referencing all the following **except**:

- | | |
|---------------------|--|
| A. shipping papers. | B. <i>Emergency Response Guidebook</i> . |
| C. MSDS Sheets. | D. NFPA 704. |

Answer: D

148. Which of the following **would not** be used to determine the name of a hazardous material located in a facility?

- | | |
|---------------------|--|
| A. NFPA 704 diamond | B. <i>DOT Emergency Response Guidebook</i> |
|---------------------|--|

C. Labels

D. Material Safety Data Sheets

Answer: A

149. The illustration below is an example of radioactive material packaging known as:



A. Type A.

B. Type B.

C. excepted.

D. industrial.

Answer: C

150. Cylindrical or box-like cask packaging made of rigid metal that is designed for performance under hypothetical accident conditions best describes Type _____ radioactive packaging.

A. 1

B. 2

C. A

D. B

Answer: D

151. Which of the following are examples of hazardous materials that would be classified and placarded Class 9 during transportation?

A. Molten sulfur, PCBs

B. Gasoline, kerosene

C. Ammonium nitrate, ethyl ketone peroxide

D. Anhydrous ammonia, phosgene

Answer: A

152. **Directions:** Read the statements below regarding the determination of specific names of hazardous materials and select your answer from alternatives A-D.

Statement 1: The blue section of the Emergency Response Guidebook (ERG) lists the shipping names of hazardous materials.

Statement 2: Shipping names are always identical to the chemical names of materials.

Statement 3: It is important to know the proper spelling of the shipping name of a material before referencing the ERG.

- A. All three statements are true.
- B. Statements 1 and 2 are true; statement 3 is false.
- C. Statements 2 and 3 are true; statement 1 is false.
- D. Statements 1 and 3 are true; statement 2 is false.

Answer: D

153. The complexity of transport regulations is compounded by several agencies having overlapping responsibilities. All of the following federal agencies are involved in the regulation of hazardous materials and/or wastes **except** the:

- A. Department of Transportation (DOT).
- B. Department of Energy (DOE).
- C. Transport Development Group (TDG).
- D. Chemical Transportation Emergency Center (CHEMTREC)

Answer: D

- 15 T Hazardous materials that are manufactured, stored, processed, or used at a
4. F particular site **are not** subject to regulations affecting transported materials.

Answer: T

155. **Directions:** Read the statements below regarding the determination of specific names of hazardous materials and select your answer from alternatives A-D.

Statement 1: A Material Safety Data Sheet provides the name the chemical company uses to identify the product.

Statement 2: The product name is not always identical to the chemical name, as listed on a Material Safety Data Sheet.

Statement 3: The listing of product names, chemical names, and synonyms on Material Safety Data Sheets can make identifying chemicals sometimes confusing.

- A. Statement 1 is true; statements 2 and 3 are false.
- B. Statements 1 and 2 are true; statement 3 is false.
- C. Statements 2 and 3 are true; statement 1 is false.
- D. All three statements are true.

Answer: D

156. The DOT Hazard Class 8 consists of:

- | | |
|-----------------------|----------------|
| A. flammable liquids. | B. explosives. |
| C. corrosives. | D. poisons. |

Answer: C

157. The **primary** hazard of a DOT Hazard Class 5 material is:

- A. radiation.
- B. oxidation.
- C. spontaneously combustible.
- D. poison.

Answer: B

158. If a placard is visible, but no product name or four digit UN number is given, how can you determine which guide page of the *Emergency Response Guidebook* to use?

- A. The table of placards lists guide numbers.
- B. The hazard class number determines the guide page number.
- C. Use the green section of the *Emergency Response Guidebook*.
- D. You cannot use the *Emergency Response Guidebook* without a name or number.

Answer: A

159. If a chemical name is highlighted in the *Emergency Response Guidebook*, the table of initial isolation and protective action distances are found in the _____ section.

- A. white
- B. green
- C. yellow
- D. blue

Answer: B

160. When referring to the *Emergency Response Guidebook*, if a chemical name **is not** highlighted, the next step is to proceed to the _____ section.

- A. blue
- B. green
- C. white
- D. orange

Answer: D

161. The chemicals listed in highlighted type in the *Emergency Response Guidebook* were selected because:

- A. they present a poison inhalation hazard.
- B. their vapors are explosive.
- C. they create corrosive vapors.
- D. the actions listed in the orange section will not be effective for these chemicals.

Answer: A

162. Using the DOT Emergency Response Guidebook, the hazard class number assigned for vinyl chloride with the I.D. #1086 is:

- A. 2.
- B. 4.
- C. 9.
- D. 1.

Answer: A

163. The DOT Hazard Class 1 consists of:

- A. explosives.
- B. flammable liquids.

C. poisons.

D. corrosives.

Answer: A

164. The DOT hazard Class 2 consists of:

A. flammable liquids.

B. gases.

C. flammable solids.

D. explosives.

Answer: B

165. The DOT Hazard Class 3 consists of:

A. gases.

B. explosives.

C. flammable liquids.

D. flammable solids.

Answer: C

166. The DOT Hazard Class 4 consists of:

A. corrosives.

B. flammable liquids.

C. oxidizers.

D. flammable solids.

Answer: D

167. The DOT Hazard Class 5 consists of:

A. oxidizers.

B. poisons.

C. flammable liquids.

D. flammable solids.

Answer: A

168. The DOT Hazard Class 6 consists of:

A. oxidizers.

B. poisons.

C. radioactive substances.

D. flammable liquids.

Answer: B

169. The DOT Hazard Class 7 consists of:

A. oxidizers.

B. poisons.

C. radioactive substances.

D. corrosives.

Answer: C

170. The DOT Hazard Class 9 consists of:

A. gases.

B. oxidizers.

C. radioactive substances.

D. miscellaneous.

Answer: D

171. Which section of the Emergency Response Guidebook provides the fire,

explosion, and health hazard information for the material identified by the first responder?

- A. Green B. Yellow C. Orange D. Blue

Answer: C

172. If a numbered guide for a transported hazardous material cannot be obtained by following the three steps outlined on page 1 of the DOT Emergency Response Guidebook, the first responder should:

- A. call CHEMTREC immediately.
B. contact the carrier of the chemical.
C. see if the placard is visible, refer to the Table of Placards section of the Guidebook.
D. assume the material may undergo violent polymerization if subjected to heat or contamination.

Answer: C

173. The recommended course of action for fighting a small fire involving a substance identified by the UN/NA I.D. number 2553 would be found in the _____ section of the *Emergency Response Guidebook*.

- A. blue B. orange C. white D. green

Answer: B

174. One resource that deals with protective action distances involving poisonous gas, is the:

- A. *DOT Emergency Response Guide Book*.
B. Material Safety Data Sheet.
C. NFPA Hazardous Materials Data Base.
D. *Fire Chief's Handbook*.

Answer: A

175. When using the Table of Isolation Distances in the Emergency Response Guidebook, a large spill is defined as a quantity greater than:

- A. 5 gallons. B. 55 liters. C. 5 liters. D. 55 gallons.

Answer: D

176. The recommended shape of the initial isolation zone around a chemical spill or release is:

- A. circular. B. square. C. triangular. D. rectangular.

Answer: A

177. The statement: "People inside a building should remain inside until the danger passes," best describes:

- A. protective actions.
- B. initial isolation area.
- C. evacuation.
- D. shelter in place.

Answer: D

178. The general routes of entry for human exposure to hazardous materials are:

- A. inhalation, ingestion, radiation, and injection.
- B. injection, infection, radiation, and adsorption.
- C. inhalation, ingestion, absorption, and injection.
- D. absorption, dilution, injection, and ingestion.

Answer: C

Directions: Match the terms in Column A with the appropriate definitions from Column B.

Column A

Column B

179. Isolate hazard area and deny entry

180. Evacuate

181. In-place protection

- A. Moving everyone from a threatened area to a safer area
- B. Keeping everyone not directly involved in the emergency operation away from the affected area
- C. Allowing only first responders into the affected area
- D. Having people remain inside a building rather than moving them to another area.

Answer: B,A,D

182. When determining initial isolation distances for incidents involving explosive devices, it is **best** for responders to:

- A. routinely isolate the immediate danger area 2,000 feet in all directions regardless of the device.
- B. use explosives detection equipment or bomb-sniffing dogs to accomplish the task.
- C. wait for bomb technicians to size up the situation and confer

with the incident commander before making the call.

- D. understand that recommended isolation distances should be considered only as a guide.

Answer: D

183. Scene control at a terrorism incident may present unique challenges for the responders. In particular, responders must be aware that:

- A. the incident may have taken place in a high crime area, so they should wait for the police before taking any action.
- B. the terrorist may be on the scene waiting for responders to arrive before striking again.
- C. the terrorist will not intentionally target responders, so they should consider the scene safe except for any hazardous materials present.
- D. scene control at criminal incidents is solely the responsibility of law enforcement, so they should focus on other activities.

Answer: B

184. Of the 62 guides found in the orange-bordered section of the Emergency Response Guidebook, only two, Guides 161 and 162 (low level and low to moderate level radiation) list _____ as providing adequate protection for first responders.

- A. street clothes or work uniforms
- B. chemical-protective clothing and equipment
- C. SCBA and street clothes or work uniforms
- D. SCBA and structural firefighter's protective clothing

Answer: D

185. Which of the following is/are potential ignition sources found at the scenes of hazardous materials incidents?

- A. Radios, hand lights, pagers
- B. Heated surfaces
- C. Static electricity
- D. All of the above.

Answer: D

Directions: Match the hazard type in Column A with its description in Column B.

Column A

Column B

- 186. Thermal
- 187. Asphyxiation
- 188. Etiological

- A. Includes poisons and corrosives
- B. Exposure to a microorganism or its toxin
- C. Can lead to suffocation and may be either simple or chemical
- D. Excessive heat or excessive cold

Answer: D,C,B

189. The collection of evidence at a terrorist event is **primarily** the responsibility of:

- A. the hazmat team.
- B. the fire department.
- C. law enforcement.
- D. the arson investigator.

Answer: C

190. _____ is the process of taking in materials through the skin or eyes.

- A. Inhalation
- B. Absorption
- C. Injection
- D. Ingestion

Answer: B

191. The route of exposure that is the **most commonly** associated with causing ill effects, both acute and chronic, is:

- A. Absorption
- B. Ingestion
- C. Inhalation
- D. Injection

Answer: C

192. Copies of the local emergency response plan (LERP) must be made available to:

- A. first responders trained to awareness level.
- B. all incident commanders.
- C. hazardous material response teams.
- D. all first responders.

Answer: D

193. Typical ignition sources found at the scene of a hazardous material incident would include all of the following **except**:

- A. chemical light sticks.
- B. hand lights.
- C. radios.
- D. lighting equipment

Answer: A

194. Of the following, which **is not** a responsibility of the individual trained to the awareness level?

- A. Establish the decon corridor
- B. Call for appropriate assistance
- C. Protect themselves
- D. Isolate the area

Answer: A

195. One of the roles of the first responder at the awareness level during a Haz mat incident is to:

- A. plug the leak.
- B. operate a remote shut off.
- C. isolate the area.
- D. dike around a spill.

Answer: C

196. Of the following, which are the prescribed shapes of the recommended initial isolation and protective action zones?

- A. A circle for the initial isolation zone with an elongation of it downwind side for the protective action zone.
- B. A circle for the initial isolation zone with an elongation of it outward toward the upwind side for the protective action zone.
- C. A rectangle for the initial isolation zone elongating toward the downwind side.
- D. A square for the initial isolation zone, expanding in all four directions as needs dictate for the protective action zone.

Answer: A

197. A first responder must refer to the Table of Initial Isolation and Protective Action Distances in the Emergency Response Guidebook:

- A. whenever the material entry guide number is supplemented with the letter "P."
- B. whenever the material entry in the Identification Number and Name Indexes is highlighted and fire is involved.
- C. whenever the material entry in the Identification Number and Name Indexes is highlighted and fire **is not** involved.
- D. whenever identification of a material cannot be made using any of the index methods.

Answer: C

198. The Table of Initial Isolation and Protective Action Distances in the Emergency Response Guidebook is divided into "small spills" and "large spills." The DOT defines a small spill as a leaking container, smaller than:

- A. 5 gallons
- B. 55 gallons
- C. 100 gallons
- D. 1001 gallons

Answer: B

199. Upon arriving on the scene of a 55 gallon drum leaking an unknown liquid, you notice a flammable liquid placard. After referring to your *Emergency Response Guidebook* (ERG), you are directed to guide number 127. You would expect to find the Emergency Action for a spill or leak in the section which is colored:

- A. blue. B. yellow. C. green. D. orange.

Answer: D

200. When providing emergency medical care to victims of a hazardous materials incident:

- A. all contaminated clothing, jewelry, eye glasses, and shoes should be immediately discarded.
- B. the majority of care should be performed prior to moving patient from the contaminated area.
- C. the patient should be removed from the contaminated area at which time basic care and decontamination can begin.
- D. under ideal circumstances, the patients should not be decontaminated until they are at the hospital. All initial efforts should be focused on patient care.

Answer: C

201. If, in using the Emergency Response Guidebook, a first responder discovers the entry for the material in question is highlighted and there is no fire involved, the first responder should go directly to the:

- A. yellow-bordered section.
- B. blue-bordered section.
- C. green-bordered section.
- D. table of placards.

Answer: C

202. The mission of the first responder trained to the awareness level includes all of the following **except**:

- A. recognizing the presence of hazardous materials.
- B. surveying the incident from a close proximity to determine the identity of the material involved.
- C. isolating the area of the emergency and preventing entry by unauthorized persons.
- D. calling for the appropriate help to mitigate the incident.

Answer: B

203. First responders trained to the Awareness level have the ability to:

- A. select and use proper PPE.
- B. implement basic decontamination measures.
- C. realize the need for additional resources and make the appropriate notifications.
- D. apply basic hazard and risk assessment techniques.

Answer: C

204. The isolation distance in the numbered guides is to be used:

- A. whenever the index entry is highlighted.

- B. whenever the entry is identified as a toxic inhalation hazard.
- C. whenever the entry is identified as a dangerous water reactive material.
- D. once the 3-digit guide number has been obtained through the ID number or material name indexes.

Answer: D

205. Upon arrival to a hazardous material incident involving a truck, you learn it is carrying magnesium scrap. You are unable to obtain the 4-digit ID number. Where should you look **first** in the Emergency Response Guidebook for guidance?

- A. In the orange-bordered action guide section.
- B. In the blue-bordered material index section.
- C. In the yellow-bordered identification number index section.
- D. In the green-bordered table of initial isolation and protective action distances section.

Answer: B

206. In the Emergency Response Guidebook, a first responder would expect to find the highlighted entries indicating that a material is either a toxic inhalation hazard or a dangerous water reactive material in the:

- A. orange-bordered section only.
- B. green and orange-bordered sections.
- C. table of placards section.
- D. yellow and blue-bordered sections.

Answer: D

207. When using the Emergency Response Guidebook, the next step the first responder should follow after learning a material's 3-digit guide number is to:

- A. go to the blue-bordered section.
- B. go to the yellow-bordered section.
- C. call CHEMTREC.
- D. go to the orange-bordered section.

Answer: D

208. Upon arrival at a hazardous material incident involving a truck, you locate the 4-digit ID number on an orange panel. You should look **first** in the Emergency Response Guidebook for guidance in the:

- | | |
|-----------------------------|-----------------------------|
| A. green-bordered section. | B. blue-bordered section. |
| C. yellow-bordered section. | D. orange-bordered section. |

Answer: C

209. The lead agency during a terrorist emergency (crisis management) is the:

- A. regional hazmat team.
- B. FEMA.
- C. U.S. Fire Administration.
- D. FBI.

Answer: D

210. A tank carrier designed to haul various chemicals whose pressures **do not** exceed 40 psi would be an:

- A. MC 306/DOT 406.
- B. MC 307/DOT 407.
- C. MC 312/DOT 412.
- D. MC 331.

Answer: B

211. When using water to extinguish a fire involving pesticides or a poison, the **primary** concern should be:

- A. reactivity.
- B. resistance to solubility.
- C. run-off contamination.
- D. product recovery.

Answer: C

212. If a product with a vapor density of 1.6 escaped from its container, you would expect the product to:

- A. collect in low-lying areas.
- B. rapidly dissipate if outdoors
- C. float on water
- D. sink in water

Answer: A

213. The **best** source of information on a specific hazardous material is:

- A. NFPA 704.
- B. the Emergency Response Guidebook.
- C. the transporting vehicle's driver.
- D. the manufacturer's Material Safety Data Sheet (MSDS).

Answer: D

214. When attempting to collect hazard information during an emergency incident, the responders could contact _____ for immediate information on the material's properties, its hazards, and suggested control techniques.

- A. DOD
- B. CHEMTREC
- C. NFPA
- D. OSHA

Answer: B

21 T Emergency decontamination must take place in the decon corridor.

5. F

Answer: F

216. In order to determine whether the personal protective equipment provided is appropriate for defensive operations, the Emergency Response Guidebook should be

consulted. The section in which this information would be found is colored:

- A. yellow. B. blue. C. orange. D. green.

Answer: C

217. You arrive on the scene of a vehicle accident involving a cargo tank truck carrying gasoline. The truck is leaking its product into a small lake. The driver of the truck gives you an MSDS sheet on gasoline, which gives a specific gravity of 0.8. With this information, you can predict that the product will:

- A. remain on top of the water, as it is lighter than the water.
B. sink to the bottom, as it is heavier than water.
C. completely mix with the water and no longer be a hazard.
D. react violently upon contact with water.

Answer: A

218. The active ingredients on a pesticide label will be:

- A. listed by name and percentage. B. listed but not specifically named.
C. listed by name only. D. listed as a percentage only.

Answer: A

219. Control of the scene begins by isolating the site. The process for establishing initial isolation distances can be found:

- A. on the product Material Safety Data Sheet (MSDS).
B. in the Emergency Response Guidebook (ERG).
C. in the CHEMTREC Responder Handbook.
D. by contacting Poison Control.

Answer: B

220. The piping for the _____ is contained outside of the tank, usually on the ends, with a manhole on top of the tank.

- A. IM 101 B. IM 102 C. IM 105 D. IM 107

Answer: B

221. What level of training is required to don chemical protective clothing?

- A. Firefighter I B. First Responder
C. Haz Mat Awareness D. Haz Mat Operations

Answer: D

222. When initiating an Incident Management System at hazardous materials incidents, it is important to remember that an individual's span of control is:

- A. 1 to 5. B. 3 to 9. C. 2 to 7. D. 5 to 10.

Answer: C

223. If you are initiating the Incident Management System at a hazardous materials incident, the person assigned as the Safety Officer should be:

- A. trained to the awareness level.
- B. trained to the operations level.
- C. trained to the technician level.
- D. the second highest ranking person on the scene.

Answer: C

224. The goal of an emergency decon procedure is to:

- A. completely remove all possible contamination while protecting the environment from run-off.
- B. remove any residual contamination after gross decon is completed.
- C. eliminate cross contamination of hospital personnel.
- D. remove any threatening contamination as quickly as possible.

Answer: D

225. If mitigation efforts are failing or the situation is getting worse, the:

- A. original plan must be reevaluated and possibly revised.
- B. original plan should be discarded and a new plan developed.
- C. original plan should be continued as originally developed until incident end.
- D. incident should be considered a loss and evacuation procedures initiated.

Answer: A

226. Which of the following **is not** a response objective for hazardous material incidents?

- A. Leak control B. Rescue C. Recovery D. Reporting

Answer: D

227. The statement, "Keep Away From Children," is found on a pesticide label. This is an example of a(n):

- A. precautionary statement.
- B. incompatibility statement.
- C. pest control warning statement.
- D. signal word statement.

Answer: A

228. The statement, "Keep Away from Waterways," is found on a pesticide label. This statement is referred to as a(n):

- A. signal word.
- B. hazard statement.

C. pest control product warning.

D. incompatibility statement.

Answer: B

229. The transport container on which you would expect to find a specification plate is known as a:

A. cargo tank truck.

B. rail car.

C. aircraft transport container.

D. All of the above.

Answer: A

230. While enroute to an emergency incident, dispatch informs you that callers are reporting a tank leaking an unknown liquid. Dispatch also informs you that witnesses report seeing a marking of "Spec. 51" on the side of the tank. Which of the following types of containers would you expect to find on arrival at the incident?

A. Cargo tank

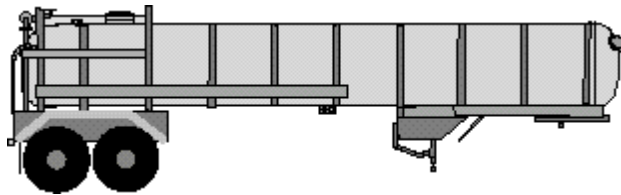
B. Rail car

C. Intermodal portable tank

D. Radioactive container

Answer: C

231. The vehicle pictured below is an:



A. MC 331.

B. MC 338.

C. MC 312/DOT 412.

D. MC 306/DOT 406.

Answer: C

232. A recon team is sent to observe a tank truck that has rolled over. The team reports that the vehicle is an MC 312. The container most probably contains a:

A. flammable liquid.

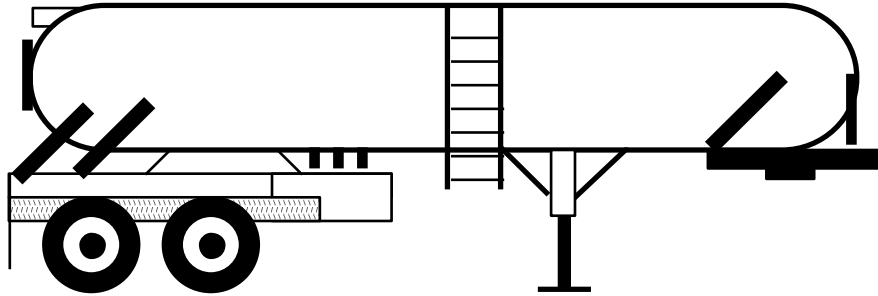
B. corrosive liquid.

C. poison gas.

D. flammable solid.

Answer: B

233. In response to an incident involving a jackknifed tractor trailer, you arrive and size up the situation. From your position, you only have a side view of the tractor trailer. You know it is an:

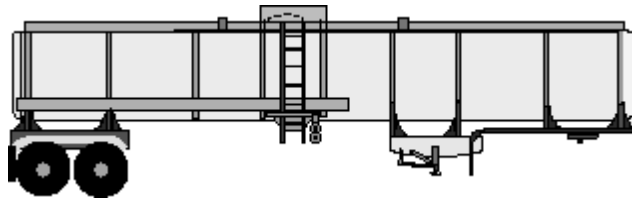


- A. MC 331.
- C. MC 312/DOT 412.

- B. MC 338.
- D. MC 306/DOT 406.

Answer: A

234. A single or double manhole assembly protected by a flash box and roll-over protection is an identification feature of a(n) _____ carrier shown in the illustration.

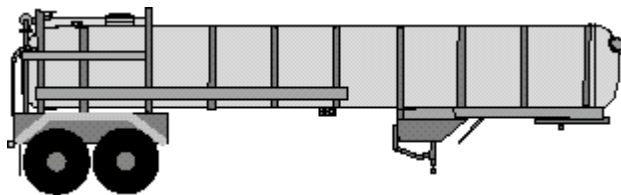


- A. MC 306/DOT 406
- C. MC 312/DOT 412

- B. MC 307/DOT 407
- D. MC 331

Answer: B

235. A tank truck that carries corrosive liquids, generally acids, and has a narrow diameter with external ribbing, as illustrated below is an:

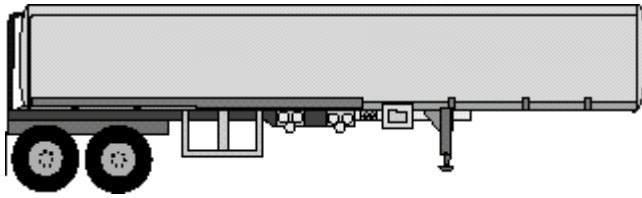


- A. MC 306/DOT 406
- C. MC 312/DOT 412

- B. MC 307/DOT 407
- D. MC 331

Answer: C

236. An MC 306/DOT 406 nonpressure liquid carrier, as illustrated below, can operate with liquids with vapor pressures below _____ psi.



- A. 3 B. 14.7 C. 100 D. 212

Answer: A

237. An MC 307/DOT 407 low-pressure chemical carrier is designed to carry chemicals with pressures not to exceed _____ psi.

- A. 3.0 B. 75.0 C. 40.0 D. 30.0

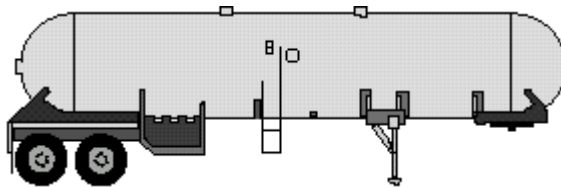
Answer: C

238. A tank carrier designed to carry flammable liquids, combustible liquids, Class B poisons, and liquid food products with vapor pressures up to 3 psi, is an:

- A. MC 306/DOT 406. B. MC 307/DOT 407.
C. MC 312/DOT 412. D. MC 331/DOT 407.

Answer: A

239. A noninsulated, single-shell vessel illustrated below, which carries gases that have been liquefied, is an:



- A. MC 306/DOT 406. B. MC 307/DOT 407.
C. MC 312/DOT 412. D. MC 331.

Answer: D

240. A cryogenic material would be carried in an:

- A. MC 306/DOT 406. B. MC 307/DOT 407.
C. MC 331. D. MC 338.

Answer: D

241. The shape of this container that is located at a fixed facility would indicate it probably contains a:



A. cryogenic.
C. poison gas.

B. solid waste.
D. combustible liquid.

Answer: A

242. Pipe-like packaging of radioactive materials is done in steel reinforced concrete casks, lead pipes, or heavy gauge metal drums. This packaging is considered to be Type:

A. 2.

B. B.

C. A.

D. 1.

Answer: B

243. The shipping of radioactive materials in a metal drum is considered a Type _____ packaging.

A. A

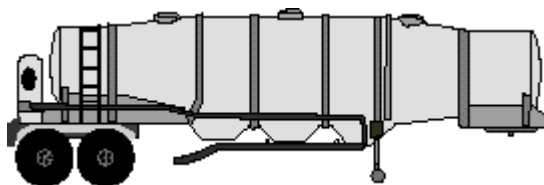
B. B

C. C

D. D

Answer: A

244. The V-shaped carrier below depicts a _____ carrier.



A. low-pressure

B. high-pressure

C. dry bulk

D. cryogenic

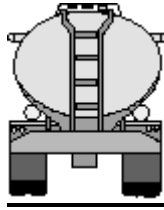
Answer: C

245. A carboy may be used for transporting materials containing:

- A. radioactive materials.
- B. corrosives.
- C. explosives.
- D. poison gases.

Answer: B

246. Viewed from the rear, a liquid carrier has an elliptical shape. This shape, illustrated below, indicates what type of carrier?



- A. MC 307/DOT 407
- B. MC 312/DOT 412
- C. MC 306/DOT 406
- D. MC 331

Answer: C

247. The proper cargo tank truck to carry a shipment of sulfuric acid is an:

- A. MC 306/DOT 406.
- B. MC 307/DOT 407.
- C. MC 312/DOT 412.
- D. MC 331.

Answer: C

24 T Pipeline markers contain information describing the transported commodity
8. F and the name and telephone number of the carrier.

Answer: T

249. A _____ cargo tank has an inner tank with an outer shell, and is well insulated.

- A. flammable liquid
- B. cryogenic
- C. combustible liquid
- D. acid

Answer: B

250. A cryogenic liquid tank car will have:

- A. a single uninsulated shell.
- B. an enclosed dome.
- C. a double shell with insulation.
- D. fittings and valves visible on top of the tank car.

Answer: C

251. A rail car with a stenciled name on its side is generally a:

- | | |
|-------------------|----------------------|
| A. coded car. | B. pressurized car. |
| C. dedicated car. | D. gas-carrying car. |

Answer: C

252. If a rail car had a cylindrical tank and a covered dome containing all the fittings and valves, it would be classified as a _____ rail car.

- | | |
|------------------|--------------------------|
| A. nonpressure | B. cryogenic liquid tank |
| C. pressure tank | D. dry bulk tank |

Answer: C

253. A rail car with exposed fittings would be considered to be a _____ car.

- | | |
|-------------------------------------|-----------------------------------|
| A. nonpressure or low-pressure tank | B. pressure or high-pressure tank |
| C. hopper | D. cryogenic liquid tank |

Answer: A

254. A _____ tank car is designed to carry low-pressure, refrigerated liquids at -130°F and below.

- | | |
|--------------------------------|------------------------------|
| A. nonpressure or low-pressure | B. pressure or high-pressure |
| C. hopper | D. cryogenic liquid |

Answer: D

255. There is specific information given on pipeline markers. Of the information given below, which **is not** required on a pipeline marker?

- | | |
|-------------------------------|------------------------------------|
| A. Destination of the product | B. Product carried in the pipeline |
| C. Owner of the pipeline | D. Emergency telephone numbers |

Answer: A

256. Which of the following **is not** mandatory information found on a pesticide label?

- | | |
|----------------------------|-----------------------|
| A. EPA registration number | B. Signal word |
| C. NFPA 704 data | D. Active ingredients |

Answer: C

257. Which of the following **is not** a required signal word on a pesticide label?

- | | | | |
|------------|------------|----------|-----------|
| A. Caution | B. Warning | C. Toxic | D. Danger |
|------------|------------|----------|-----------|

Answer: C

258. When implementing tactical activities during a bomb event, responders should:

- A. stage in the line-of-sight path of the suspected device.
- B. use only one radio when in close proximity to the device.
- C. be alert for secondary devices.
- D. move the device away from primary exposures.

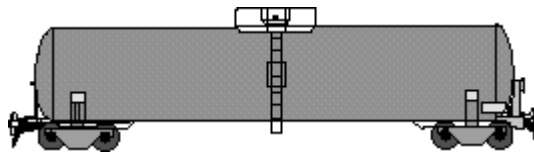
Answer: C

259. Two complicating factors facing emergency responders at a terrorist incident are:

- A. media relations and political implications.
- B. the need for auto-injectors and radiological equipment.
- C. secondary devices and uncertain weather conditions.
- D. crime scene considerations and possible secondary events.

Answer: D

260. The rail car pictured below is what type of tank car?



- A. Nonpressure tank car with expansion dome
- B. Cryogenic tank car
- C. Pressure tank car
- D. Spec 51 Intermodal car

Answer: C

261. Above ground pressure facility tanks are divided into two categories:

- A. bulk and nonbulk.
- B. below-ground and above-ground.
- C. cryogenic and corrosive.
- D. low-pressure and high-pressure.

Answer: D

262. Bags may be used to store:

- A. nonbulk dry items such as fertilizer.
- B. cryogenic liquids.
- C. pressurized gasses.
- D. nerve agents.

Answer: A

263. A common hazard with cylinders involved in fire is:

- A. melting of the exterior shell.
- B. lack of release valves.
- C. the potential for explosion.
- D. loss of pressure.

Answer: C

264. A common design feature of cylinders is a:

- A. pressure relief device.
- B. fill cap.
- C. manual-control vent.
- D. air monitoring alarm.

Answer: A

265. If the type of container located at a facility is a fiberboard drum, the firefighter should realize that the contents of the package:

- A. is a cryogenic gas.
- B. is a pressurized liquid.
- C. poses a minimal health risk.
- D. poses a significant health risk.

Answer: C

266. Which of the following **is not** an example of a pressure facility tank?

- A. High-pressure horizontal tank
- B. High-pressure spherical tank
- C. Cryogenic liquid tank
- D. Underground storage tank

Answer: D

267. On pesticide labels for materials originating in Canada, the product will have a _____ which is similar to the EPA registration number in the United States.

- A. Pest control number
- B. Poison control number
- C. DOT hazard class number
- D. UN identification number

Answer: A

268. While surveying a hazardous materials incident scene, you notice yellowish vapors emitting from a cylinder. The driver of the vehicle carrying the cylinders tells you they contain chlorine. As a responder trained to the operations level, one of the ways to verify chlorine could emit these vapors is to:

- A. contact Chemtrec for assistance.
- B. enter the hot zone to read the label on the cylinder.
- C. bring a chlorine monitor into the vapor cloud to check the reading.
- D. both A and C are correct.

Answer: A

269. The intermodal tank that is designed for working pressures of 100 to 500 psig and usually transports liquefied gases under pressure is known as an:

- A. IMO Type 1.
- B. IMO Type 2.
- C. IMO Type 5.
- D. IMO Type 7.

Answer: C

270. Type _____ packaging is the strongest packaging and is used for more highly radioactive shipments. These containers include steel reinforced concrete casks, lead pipe, and heavy-gauge metal drums.

- A. A B. B C. C D. D

Answer: B

271. Type _____ packaging contains low-level commercial radioactive shipments. These containers include cardboard boxes, wooden crates, and metal drums.

- A. A B. B C. C D. D

Answer: A

272. These trailers contain several pressurized vessels. They are constructed of steel and have pressures ranging from 2000 to 6000 psi. The piping and controls are usually located on the rear of the trailer. These trailers are known as:

- A. compressed gas tube trailers. B. high pressure trailers.
C. cryogenic trailers. D. corrosive liquid trailers.

Answer: A

273. All of the following are characteristics of a compressed gas tube trailer **except**:

- A. the manifold is enclosed at the rear.
B. it has permanent markings for the material or ownership.
C. it carries liquefied gases.
D. it carries compressed gases.

Answer: C

274. A specialized intermodal tank container which transports gases in high-pressure cylinders (3000 to 5000 psi) is known as a(n):

- A. tube module. B. cryogenic intermodal tank.
C. IM 101. D. IM 102.

Answer: A

275. A specialized intermodal tank container which carries refrigerated liquid gases, argon, oxygen, or helium would be an example of:

- A. tube modules. B. IM 101.
C. IM 102. D. cryogenic intermodal tanks.

Answer: D

276. Cryogenic liquid storage tanks are:

- A. non-pressure tanks that are highly insulated.
- B. atmospheric pressure non-insulated tanks.
- C. very low-pressure highly insulated tanks.
- D. may vary in pressure ratings, with some as high as 300 psi and heavily insulated.

Answer: D

277. **Directions:** Read the following statements and choose your answer from A-D below.

Statement 1: There are many types of intermodal containers, or freight containers that can be used interchangeably on multiple modes of transportation (highway, rail, ship).

Statement 2: Cryogenic liquids cannot be shipped in intermodal containers because they are considered to be too unstable for this type of shipment.

Statement 3: Radioactive material containers are shipped in either Type A or Type B containers.

- A. All three statements are true.
- B. Statement 1 is false; statements 2 and 3 are true.
- C. Statements 1 and 3 are true; statement 2 is false.
- D. Statements 1 and 3 are false; statement 2 is true.

Answer: C

278. You have arrived on the scene of a hazardous materials incident involving pesticides. On one of the pesticide labels, you notice the statement "Keep from waterways." This statement is called the:

- A. Signal Words.
- B. EPA Statement.
- C. Hazard Statement.
- D. Danger Statement.

Answer: C

279. Common hazardous materials stored in nonbulk packages, referred to as bags, are:

- A. corrosives.
- B. fertilizers.
- C. poisons.
- D. liquids.

Answer: B

280. A railcar tanker with a stencil marking of DOT 111 is a(n):

- A. covered floating roof tank.
- B. MC 306.
- C. non-pressurized railcar.
- D. cryogenic storage car.

Answer: C

281. The products that IM 101 intermodal portable tanks typically carry are:

- A. molten sulfur.
- B. flammable gases.
- C. flammable liquids.
- D. radioactive materials.

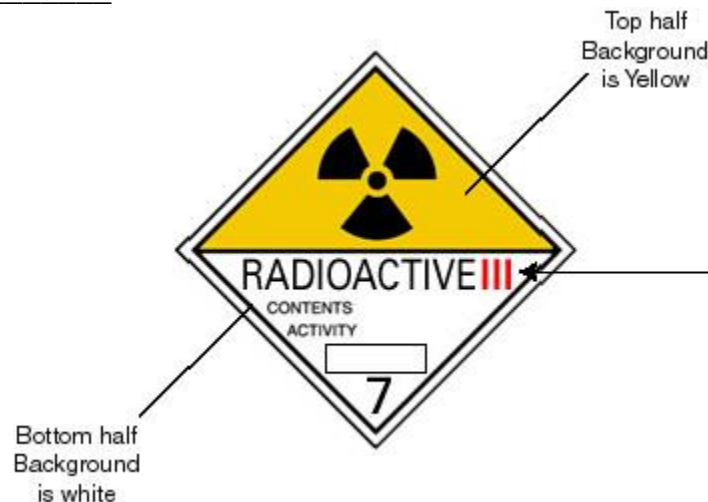
Answer: C

282. The products that IM 102 intermodal portable tanks typically carry are:

- A. nonregulated materials.
- B. flammable gases.
- C. flammable liquids.
- D. radioactive materials.

Answer: A

283. The item indicated in the illustration below is referred to as the _____ and indicates the _____.



- A. vertical bars, radioactive levels
- B. DOT number, Hazard Class
- C. transport index, maximum radiation levels
- D. activity, number of radioactive atoms

Answer: A

284. The design pressure of an IM 101 portable tank is:

- A. 14.5 to 25.4 psi.
- B. 100 to 500 psi.
- C. 25.4 to 100 psi.
- D. 6.89 to 14.5 psi.

Answer: C

285. Pneumatically unloaded hopper cars typically carry:

- A. finished goods.
- B. compressed gasses.
- C. powdered materials.
- D. rolled steel.

Answer: C

286. Of the railcars listed below, which of the following is considered to be obsolete?

- A. Covered Hopper Car
- B. Cryogenic liquid tank car
- C. High pressure tube car
- D. Nonpressure tank car without an expansion dome

Answer: C

287. What type of container is used to ship materials of low radioactivity?

- A. Industrial
- B. Strong, tight
- C. Type B
- D. Extruded

Answer: B

288. Packaging used for transport with extremely low levels of radioactivity that present no risk to the public or environment is known as:

- A. Type B.
- B. Excepted.
- C. Concrete Box.
- D. Industrial.

Answer: B

289. All of the following are examples of materials that are transported in industrial containers **except**:

- A. contaminated clothing.
- B. natural uranium.
- C. laboratory samples.
- D. smoke detectors.

Answer: B

290. Large tanks with hemispherical heads on both ends can be identified as:

- A. cryogenic liquid.
- B. corrosive liquid.
- C. dry bulk.
- D. high pressure.

Answer: D

291. All of the following are shipped in industrial containers which have limited hazard to the public and environment **except**:

- A. laboratory samples.
- B. radioactive materials for medical use.
- C. slightly contaminated clothing
- D. smoke detectors.

Answer: B

292. An intermodal container that is capable of holding high pressure gases 3000 psi or higher is a:

- A. cryogenic intermodal tank.
- B. tube module intermodal container.

C. pressure intermodal tank.

D. non-pressure intermodal tank.

Answer: B

293. Cylindrical packaging made of metal, plastic, or fiberboard used to transport solids or liquids **best** describes:

A. carboys.

B. drums.

C. pressurized cylinders.

D. bins.

Answer: B

294. Gases that displace oxygen, such as carbon dioxide and nitrogen, are examples of _____ asphyxiants.

A. simple

B. terminal

C. general

D. chemical

Answer: A

295. In the UN/DOT Marking System, Hazard Class 3 includes:

A. black powder.

B. gasoline.

C. ammonium nitrate.

D. magnesium.

Answer: B

296. Emergency centers such as _____ are principal agencies providing immediate technical assistance to an emergency responder.

A. OSHA

B. NFPA

C. CHEMCO

D. CHEMTREC

Answer: D

297. Cryogenic liquids are those which exist at:

A. greater than 32°F.

B. minus 0°F.

C. minus 150°F.

D. minus 110°F.

Answer: C

298. A substance that spontaneously releases ionizing radiation would be labeled a(n) _____ hazard classification under the UN Labeling System.

A. 7

B. 9

C. 11

D. 13

Answer: A

299. Which of the following values represents an atmosphere that poses an immediate hazard to life or produces immediate, irreversible, debilitating effects on health?

A. TLV-TWA

B. IDLH

C. REL

D. PEL

Answer: B

300. Which of the following exposure values could be repeated a **maximum** of four times daily for 15 minutes with a 60-minute rest period between exposures?

- A. IDLH B. TLV-TWA C. TLV-STEL D. TLV-C

Answer: C

301. The **maximum** airborne concentration to which an average healthy person may be exposed 8 hours a day, 40 hours a week, without adverse health effects, **best** defines:

- A. TLV-TWA. B. TLV-STEL. C. IDLH. D. TLV-C.

Answer: A

302. In the event of exposure, the material which would pose a threat to a developing fetus is known as a(n):

- A. biogen. B. etiogen. C. teratogen. D. synergen.

Answer: C

Directions: Match the words in Column A with the definitions in Column B.

Column A

Column B

303. Beta

304. Alpha

305. Gamma

- A. Large particles with positive electrical charge
B. Form of radiation bearing no particular charge
C. Small particles with negative electrical charge
D. Large physical mass with no electrical charge

Answer: C,A,B

306. The CHEMTREC organization is available _____ hours per day to provide information about _____ to _____.

- A. 24, certain chemicals, transport personnel only
B. 24, many chemicals, response agencies
C. during normal business, only liquid chemicals, any emergency agency
D. during normal business, selected chemicals, any interested person

Answer: B

307. Within the UN System, a container labeled with a Hazard Classification of **4** contains a(n):

- A. explosive.
- B. flammable gas.
- C. flammable solid.
- D. flammable liquid.

Answer: C

308. CHEMTREC/CANUTEC can usually provide all of the following information except:

- A. hazard information warnings.
- B. databases.
- C. technical information.
- D. advice on remediation contractors.

Answer: D

309. Federal agencies may be contacted and authorized for assistance at a terrorist activity by:

- A. requesting assistance from LEPC.
- B. notifying law enforcement.
- C. the Incident Commander.
- D. requesting mutual aid.

Answer: B

310. In an emergency at a facility with bulk chemical storage, where the MSDS is not available on site, the firefighter may obtain an MSDS from:

- A. an EPA Alert.
- B. the chemical abstract service.
- C. the Department of Transportation.
- D. CHEMTREC or the manufacturer.

Answer: D

311. Given the provided MSDS (Material Safety Data Sheet), identify the boiling point of the chemical.

- A. 80.6°F
- B. 10.7°F
- C. 70°F
- D. 51°F

Answer: D

312. At an emergency incident, the firefighter may obtain appropriate MSDS information from:

- A. CAMEO.
- B. the National Response Center.
- C. OSHA.
- D. Chemtrec.

Answer: D

313. To obtain hazard and response information, a firefighter can contact the manufacturer using:

- A. the phone number on the MSDS.
- B. the CAS registry number.

- C. the Emergency Response Guide. D. CAMEO.

Answer: A

314. To contact the shipper for hazard and response information, a firefighter can obtain the phone number from:

- A. CAMEO.
C. the Emergency Response Guide.
- B. the CAS registry number.
D. the shipping papers.

Answer: D

315. In an emergency, responders can locate an MSDS from:

- A. the facility preincident plan.
B. the label of the container.
C. OSHA.
D. the local health department.

Answer: A

316. Responders can contact the shipper directly from the emergency contact number on the:

- A. MSDS.
B. Pre-Incident Plan.
C. shipping papers.
D. Chemical Abstract Service.

Answer: C

317. The radiation that is least dangerous as a threat to external portions of the body but is very dangerous if ingested or inhaled is:

- A. alpha.
C. electromagnetic.
- B. ultra violet.
D. gamma.

Answer: A

31 T Chemtrec **is not** able to provide assistance to responders if the name of the
8. F shipper or manufacturer is not known.

Answer: F

319. The number to be used to contact CHEMTREC during a chemical emergency is:

- A. 1-800-225-5288
B. 1-800-424-9300
C. 1-800-535-1212
D. 1-888-424-0000

Answer: B

32 T CHEMTREC should be utilized to access non-emergency information.

0. F

Answer: T

321. When contacting CHEMTREC, the caller should be prepared to provide all of the

following information **except** the:

- A. name of the caller and a call-back number.
- B. type of container or vehicle.
- C. names of the material, shipper, and manufacturer.
- D. number of casualties.

Answer: D

- 32 T Structural firefighting gear with SCBA will protect responders from
2. F Beta particles.

Answer: T

323. Which type of radiation has a physical mass like alpha radiation but has no electrical charge?

- A. Beta
- B. Gamma
- C. X-ray
- D. Neutron

Answer: D

- 32 T Neutron radiation is commonly used in commercial and industrial operations.
4. F

Answer: F

325. Given the Material Safety Data Sheet provided, identify the chemical CAS number.

- A. (770) 925-4640
- B. G-90
- C. 75-21-8
- D. C2H4O

Answer: C

326. Given the provided Material Safety Data Sheet, in which sections would you find personal protective equipment and first aid procedures?

- A. 4 and 8
- B. 8 and 9
- C. 6 and 9
- D. 4 and 6

Answer: A

327. Given the provided Material Safety Data Sheet, in what sections can you find information on precautions for safe handling to include release measures and personal protection measures?

- A. 3 and 7
- B. 4 and 6
- C. 4 and 7
- D. 7 and 8

Answer: D

328. Given the Material Safety Data sheet provided, in which section would signs and symptoms of exposure and routes of entry be found?

- A. Section #3
- B. Section #6
- C. Section #4
- D. Section #9
- E. All of the above are correct.
- F.

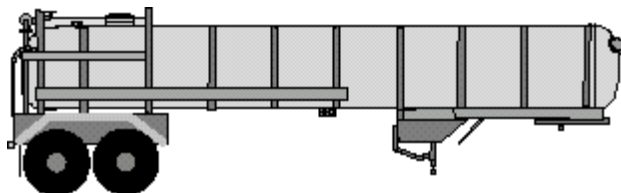
Answer: A

329. Given the Material Safety Data Sheet provided, which of the following choices would be a physical hazard of this chemical?

- A. wide flammable range
- B. low autoignition temperature
- C. ignites on contact with water
- D. immediately explodes upon contact with air

Answer: A

330. What would be the **major** concern if you were to come upon a leaking tanker of the type illustrated below?



- A. Frost bite
- B. Ignition of vapors
- C. Coming in contact with acids
- D. Coming in contact with molten product

Answer: C

331. Radiation that can be stopped by a piece of paper consists of _____ particles.

- A. alpha
- B. low-beta
- C. high-beta
- D. gamma

Answer: A

332. Materials that emit ionizing radiation are called _____ materials.

- A. negative-ion
- B. synesgeous
- C. radioactive
- D. lethal-concentration

Answer: C

333. _____ rays are the most dangerous type of radiation.

- A. Alpha
- B. Beta
- C. Neutron
- D. Gamma

Answer: D

334. Caustic soda and potassium hydroxide are examples of:

- A. polymers. B. catalysts. C. acids. D. bases.

Answer: D

335. Substances that ignite when combined create a _____ reaction.

- A. hyperbolic B. hypergolic C. congenial D. cryogenic

Answer: B

33 T A chemical with a vapor density of greater than one will tend to collect in
6. F low areas and below-grade places.

Answer: T

33 T Chemicals with specific gravities greater than one tend to float on water.

7. F

Answer: F

338. A liquid's ability to mix with water **best** defines:

- A. solubility.
C. water reactivity.
- B. surface tension.
D. instability.

Answer: A

339. A reaction that is associated with over-pressurization of closed containers and occurs at a rate of one second or less is called a:

- A. rapid relief.
B. violent rupture.
C. detonation.
D. spill.

Answer: B

340. If a container is unable to adapt to applied stress, it will breach. An opening commonly associated with a BLEVE is called:

- A. a failure of container attachments. B. disintegration.
C. runaway cracking. D. a puncture.

Answer: C

341. A _____ is a release that is the result of a broken or damaged valve(s) that may last from several seconds to several minutes, depending on the size of the opening, type of container, and nature of contents.

- A. spill
B. detonation
C. rapid relief
D. violent rupture

Answer: C

342. Hypergolic materials ignite when they:

- A. contact water.
- B. contact air.
- C. contact each other.
- D. encounter heat of friction.

Answer: C

343. When a pressurized tanker fails violently due to over-pressurizing, the phenomenon is called:

- A. detonation.
- B. SAOT.
- C. BLEVE.
- D. rapid relief.

Answer: C

344. _____ materials may cause severe chemical burns and extensive tissue damage on contact.

- A. Corrosive
- B. Radioactive
- C. Carcinogenic
- D. Etiologic

Answer: A

345. A _____ effect occurs at the point of contact with a hazardous substance.

- A. remote
- B. systemic
- C. local
- D. chronic

Answer: C

346. Which of the following substances would be classified as a chemical asphyxiant?

- A. Carbon dioxide
- B. Nitrogen
- C. Carbon monoxide
- D. Methane

Answer: C

347. Vapors that attack the mucous membranes, such as the surfaces of the eyes, nose and throat, are considered:

- A. asphyxiants.
- B. irritants.
- C. anesthetics.
- D. carcinogens.

Answer: B

348. _____ interfere with oxygen exchange during normal respiration.

- A. Anesthetics
- B. Carcinogens
- C. Irritants
- D. Asphyxiants

Answer: D

349. Materials such as lithium, finely divided magnesium, sodium, and cesium are classified as:

- A. hypergolic.
- C. water reactive.

- B. pyrophoric.
- D. inhibitors.

Answer: C

350. _____ is the difference between the upper and lower flammable limits of a gas or vapor.

- A. Flash point
- C. Flammable (explosive) range

- B. Ignition temperature
- D. Vapor density

Answer: C

Directions: Match the term in Column A with the appropriate definition in Column B.

Column A

Column B

351. Corrosiveness

352. Specific gravity

353. Water solubility

- A. Ratio of the weight of a volume of liquid or solid to the weight of an equal volume of water
- B. The measure of a substance's tendency to deteriorate another substance
- C. The percentage of an acid or base dissolved in water
- D. The degree to which a substance will mix with water

Answer: C,A,D

354. _____ is the ratio of the weight of a volume of liquid to the weight of an equal volume of water, with water having a value of 1.0.

- A. Flammable (explosive) range
- C. Specific gravity

- B. Flash point
- D. Vapor density

Answer: C

355. _____ is the minimum temperature at which a liquid gives off sufficient vapors to form an ignitable mixture with air.

- A. Ignition temperature
- C. Flash point

- B. Autoignition temperature
- D. Reactivity point

Answer: C

356. There are five ways that a metal container can breach. Which of the following **is not** considered to be a breach?

- A. Disintegration
- B. Runaway cracking
- C. Punctures
- D. Rust

Answer: D

357. In hazardous materials, one of the three time frames used for predicting the length of time that exposures may be in contact with a hazardous material in an endangered area is medium term. Medium term means:

- A. minutes and hours.
- B. days, weeks, and months.
- C. a century or more.
- D. years and generations.

Answer: B

358. In hazardous materials, one of the three time frames used for predicting the length of time that exposures may be in contact with a hazardous material in an endangered area is short term. Short term means:

- A. minutes and hours.
- B. days, weeks, and years.
- C. a century or more.
- D. years and generations.

Answer: A

359. In hazardous materials, one of the three time frames used for predicting the length of time that exposures may be in contact with a hazardous material in an endangered area is long term. Long term means:

- A. minutes and hours.
- B. days, weeks, and years.
- C. a century or more.
- D. years and generations.

Answer: D

360. All biological etiologic agents and toxins are designated as DOT Hazard Class:

- A. 3.
- B. 6.
- C. 7.
- D. 1.

Answer: B

361. Determining whether a vapor will rise or fall is commonly referred to as:

- A. vapor dispersion.
- B. vapor density.
- C. vaporization.
- D. specific gravity.

Answer: B

362. A product that is heavier than water and sinks when placed in water is an example of its:

- A. water solubility.
- C. decomposition.

- B. vapor density.
- D. specific gravity.

Answer: D

Directions: Match the dispersion patterns listed in Column A with the appropriate description in Column B.

Column A

Column B

- 363. Hemispheric
- 364. Irregular
- 365. Pool
- 366. Stream

- A. A circular or dome vapor cloud extending up from the ground
- B. Low-lying vapor cloud on the ground
- C. Movement of material by responder
- D. Low to ground following natural barriers
- E. Low-lying liquid in an odd shape

Answer: A,C,B,D

367. Chemicals that are classified as _____ can cause a severe allergic reaction.

- A. asphyxiants
- C. irritants

- B. sensitizers
- D. convulsants

Answer: B

368. A person who is repeatedly exposed to a chemical over a long period of time may develop:

- A. etiological changes.
- C. chronic health hazard.

- B. acute health hazard.
- D. chemical asphyxia.

Answer: C

369. Which of the following **is not** a dispersion pattern created by the release of a hazardous material?

- A. Cloud
- B. Plume
- C. Cone
- D. Puddle

Answer: D

370. A poison that will cause a person to have seizures is called a(n):

- A. irritant.
- B. sensitizer.
- C. convulsant.
- D. carcinogen.

Answer: C

371. Under fire conditions, indicators preceding a rupture of a compressed gas tank include all of the following **except**:

- A. discoloration of the tank.
- B. a high-pitched whistle.
- C. leakage of the hazardous material.
- D. a change in the position of the tank.

Answer: D

- 37 T A liquid with a low boiling point will more readily change to a vapor than a liquid
- 2. F with a high boiling point when exposed to fire or heat.

Answer: T

373. The temperature at which a liquid changes to a gas is **best** described as:

- A. the flash point.
- B. corrosivity.
- C. vapor density.
- D. the boiling point.

Answer: D

374. The flammable range is **best** described as:

- A. the weight of a substance compared to the weight of an equal volume of water.
- B. the percentage of gas or vapor concentration in air.
- C. the minimum temperature at which a liquid gives off vapors.
- D. the minimum temperature at which a liquid fuel gives off sufficient vapors to form an ignitable mixture with air near its surface.

Answer: B

375. The **minimum** temperature at which a liquid fuel gives off sufficient vapors to form an ignitable mixture with air near its surface is best described as:

- A. flammable range.
- B. flash point.
- C. autoignition temperature.
- D. vapor density.

Answer: B

376. The **minimum** temperature to which a fuel in air must be heated to initiate self-sustained combustion without initiation from an independent ignition source is best described as:

- A. the flash point.
- B. the flammable range.
- C. specific gravity.
- D. autoignition temperature.

Answer: D

377. When describing a product as a solid, liquid, or a gas, we are referring to its:

- A. vapor density.
- B. physical state.

C. flash point.

D. ignition temperature.

Answer: B

37 T All personnel and equipment exposed to hazardous materials are also
8. F contaminated.

Answer: F

379. What would be the likely result of allowing a contaminated individual to leave the hot zone without being decontaminated?

- A. Nothing. All contaminants would likely be gone after the individual exited the hot zone.
- B. The contaminants would likely be transferred to other personnel or equipment resulting in secondary contamination.
- C. The individual would be treated for exposure but is no risk to others.
- D. There would be direct contamination of the warm zone.

Answer: B

380. Carcinogens, mutagens, and teratogens are permanent and irreversible conditions known as:

- A. irritants.
- B. chronic health hazards.
- C. convulsants.
- D. sensitizers.

Answer: B

381. Convulsants are **best** described as:

- A. poisons that will cause an exposed individual to have seizures.
- B. cancer causing agents.
- C. exposure to microorganisms or toxins.
- D. materials that will cause allergic reactions from repeated exposure.

Answer: A

382. After repeated exposure, _____ will cause an allergic reaction.

- A. carcinogens
- B. convulsants
- C. irritants
- D. sensitizers/allergens

Answer: D

383. Blood agents, such as Arsine, would fall under which UN/DOT hazard class and division?

- A. 1.1
- B. 1.2
- C. 6.1
- D. 2.3

Answer: D

384. Vesicants/blister agents, such as nitrogen mustard, would fall under which UN/DOT hazard class and division?

- A. 6.1 B. 6.2 C. 4.1 D. 4.2

Answer: A

Directions: Match the warfare agents in Column A to the appropriate UN/Dot hazard class and division in Column B. A Division from Column B may be used more than one time.

Column A

Column B

385. nerve agents
386. choking agents
387. irritants
388. biological agents/toxins

- A. Division 2.3
B. Division 6.1
C. Division 6.2
D. Division 2.2
E. Division 1.6

Answer: B,A,D,C

389. The **minimum** temperature at which a liquid gives off sufficient vapors to form an ignitable mixture, with air near the surface, is called the _____ point.

- A. combustion B. ignition C. flash D. fire

Answer: C

39 T Vapor pressures of a substance at 100°F are always higher than the same
0. F substance at 68°F.

Answer: T

391. Which DOT Hazard Class covers nerve agents used in chemical warfare?

- A. DOT 6.3 B. DOT 6.1 C. DOT 6.2 D. DOT 5.2

Answer: B

392. Nerve agents are considered to be part of which UN/DOT hazard class?

- A. 6.2 B. 6.1 C. 2.3 D. 2.2

Answer: B

393. The immediate concern when dealing with combustible liquid spills is to:

- A. apply AFFF foam to the combustible liquid.
- B. prevent ignition of the fuel.
- C. dike storm drains along collection route.
- D. ignite fuel to allow the combustible materials to burn off.

Answer: B

394. **Most** riot control agents are considered to be in DOT hazard class:

- A. 6.2
- B. 6.1
- C. 6.3
- D. 5.2

Answer: B

395. Choking agents like _____ attack the lungs causing tissue damage.

- A. phosgene
- B. pepper spray
- C. arsine
- D. anthrax

Answer: A

396. A specific class of chemicals, called blood agents, are of great concern to first responders. They are highly toxic to the human body because they:

- A. cause damage to the bone marrow.
- B. are chemical asphyxiants because they interfere with oxygen utilization.
- C. attack the central nervous system.
- D. cause rapid blood loss.

Answer: B

397. Materials such as benzene, asbestos, and arsenic are known as:

- A. corrosives.
- B. convulsants.
- C. irritants.
- D. carcinogens.

Answer: D

398. Pepper spray is considered an irritant. Which of the following **is not** a symptom of an irritant exposure?

- A. Excessive tearing
- B. Difficulty swallowing
- C. Chest tightness
- D. Fluid in lungs

Answer: D

399. The concentration that **should never** be exceeded is called:

- A. TLV-C.
- B. PEL.
- C. TLV-TWA.
- D. STEL.

Answer: A

400. The amount of an ingested or injected substance that results in the death of 50% of the test population is:

- A. LC-50. B. LD-50. C. DC-50. D. CD-50.

Answer: B

401. The measurement commonly used by OSHA in evaluating workplace exposure during an 8 hour period is:

- A. PEL. B. LC₅₀. C. TLV-C. D. STEL.

Answer: A

402. The **primary** type of harm associated with biological terrorism is:

- A. thermal B. asphyxiation C. etiological D. mechanical

Answer: C

403. One of the symptoms of poisonous gases such as chlorine and anhydrous ammonia is severe irritation to the _____ system.

- A. respiratory B. skeletal C. cardiac D. muscular

Answer: A

404. One type of hazardous material that may be shock sensitive is:

- A. chlorine. B. sulfuric acid.
C. organic peroxide. D. hydrogen peroxide.

Answer: C

405. If available, which of the following resources is able to predict vapor cloud travel after responders' input, local data and leak information?

- A. Emergency Response Guidebook (ERG)
B. Material Safety Data Sheet (MSDS)
C. Area Locations Of Hazardous Atmospheres (ALOHA)
D. Department of Transportation Computer Enhancement for Haz Mat (DOT-CEH)

Answer: C

406. Which of the following resources would be able to determine, or predict, the concentrations of a released hazardous material within an endangered area when provided with local data and leak information?

- A. Material Safety Data Sheets (MSDS)
B. Area Locations Of Hazardous Atmospheres (ALOHA)
C. Waybill
D. Emergency Response Guidebook

Answer: B

407. Which of the following resources are available for determining the concentrations of a released hazardous material **in an endangered area**?

- A. Concentrations can be estimated using the Initial Emergency Response Guide.
- B. Monitoring equipment should be utilized, keeping in mind that Haz Mat technicians are needed to operate this equipment.
- C. It is impossible to determine concentrations of hazardous materials.
- D. Concentrations can be estimated by the odor of the leaking product.

Answer: B

408. The resource that would be useful in determining the size of an endangered area during a Haz Mat incident is the:

- A. IFSTA Training Manual.
- B. NFPA Guidebook.
- C. Emergency Response Guide.
- D. Environmental Protection Agency.

Answer: C

409. If a hazardous material incident involves a leaking flammable substance, the first responders should immediately remove all:

- A. ignition sources.
- B. upwind ignition sources.
- C. large combustible tanks.
- D. fire equipment and personnel.

Answer: A

410. In dealing with a hazardous materials fire involving bulk containers, extinguishment or control **should not** be attempted without:

- A. a large group of firefighters.
- B. specialists in hazardous materials.
- C. a continuous water supply.
- D. special hazmat suits.

Answer: C

411. What would be the **primary** hazard to a responder while rescuing victims in a building where a non-flammable hazard class 2 product is leaking?

- A. Ingestion
- B. Inhalation
- C. Desorption
- D. Injection

Answer: B

412. The **primary** hazard to responders rescuing victims in the vicinity of a fire involving products of hazard class 1 is:

- A. inhalation.
- B. ingestion.
- C. injection.
- D. explosion.

Answer: D

413. Removal of contaminated victims that are in need of medical treatment from the hazard area requires:

- A. that personnel must wait until the full decontamination corridor is in place and operational.
- B. the Emergency Decontamination process.
- C. that victims shall remain in the hot zones indefinitely.
- D. Decontamination of these victims is not required.

Answer: B

414. Which of the following is the first tactical priority to consider during a Haz mat incident?

- | | |
|------------------------|------------------------|
| A. Fire extinguishment | B. Confinement |
| C. Containment | D. Exposure protection |
| E. Rescue | F. |

Answer: E

415. A process by which one substance combines with a second substance is called:

- | | | | |
|----------------|----------------|-----------------|---------------|
| A. absorption. | B. dispersion. | C. suppression. | D. diversion. |
|----------------|----------------|-----------------|---------------|

Answer: A

416. **Directions:** Read the following statements regarding remote shutoffs and select your answers from choices A through D.

Statement 1: Remote shutoffs are usually well marked and in an easy-to-find location.

Statement 2: Remote shutoffs in fixed facilities are typically located near the entrance.

Statement 3: On vehicles, the two most common locations for remote shutoffs are at the valve controls and behind the driver's door.

- A. Statement 1 is true; statements 2 and 3 are false.
- B. Statements 1 and 2 are true; statement 3 is false.
- C. Statements 2 and 3 are true; statement 1 is false.
- D. All three statements are true.

Answer: D

417. Which of the following is a **true** statement regarding the safety precautions of remote shutoffs?

- A. They are usually well marked and in an easy-to-find location.
- B. They are usually located on the passenger side of the cab.
- C. Emergency shutoffs should be in a concealed location.
- D. Remote shutoffs are usually optional.

Answer: A

418. When determining the type of dam to use to control a spill, responders need to consider the:

- A. specific gravity of the material.
- B. vapor density of the fluid.
- C. vapor suppression of the liquid.
- D. retention capabilities.

Answer: A

419. Which of the following statements **is true** concerning the proper procedure for dilution of a spill?

- A. Flush the material into a waterway.
- B. Fuels, oils, and other hydrocarbons are readily diluted with water.
- C. Dilution may be effective when combined with other containment tactics.
- D. A foam blanket should be applied and repeated frequently.

Answer: C

420. Which of the following statements **is true** regarding vapor dispersion?

- A. It commonly utilizes firefighting foam.
- B. It is not effective on water soluble materials.
- C. The runoff may need to be contained.
- D. It is only effective on materials with a specific gravity of less than 1.

Answer: C

421. Which of the following **is not** an appropriate procedure or consideration before applying foam?

- A. Ensure the material is contained.
- B. The use of foam is limited to combustible liquids.
- C. Ensure that foam will not cause any further problems.
- D. Ensure that the foam is compatible with the spilled material.

Answer: B

422. _____ is comprised of those procedures taken to keep a material in a defined or local area.

- A. Containment
- B. Diversion
- C. Confinement
- D. Dispersion

Answer: C

423. When estimating the time it will take to successfully achieve the primary objective of the incident, all of the following should be considered **except** the:

- A. container size.
- B. product's chemical and physical properties.
- C. location of the incident.
- D. manufacturer of the product.

Answer: D

424. The purpose of vapor suppression is to:

- A. stop the further release of a material from its container.
- B. direct or influence the course of airborne hazardous materials.
- C. control the flow of a hazmat spill.
- D. reduce the emission of vapors.

Answer: D

425. Defensive control techniques that operations level personnel are permitted to engage in are:

- A. monitoring and capping.
- B. dike, dam, diversion, and retention.
- C. overpacking and diluting.
- D. clamping and neutralizing.

Answer: B

426. A process by which a hazardous liquid flow is redirected away from an area is called:

- A. absorption
- B. dispersion
- C. diversion
- D. retention

Answer: C

427. **Directions:** Read the following statements regarding absorption and select your answers from choices A through D.

Statement 1: Absorption is a defensive method of controlling a hazardous material spill by applying a material that will soak up and hold, or absorb, the spill.

Statement 2: Absorption generally requires that the operational personnel be in close proximity to the spill.

Statement 3: Absorbent materials can react with certain hazardous substances.

- A. All three statements are true.
- B. Statement 1 is true; statements 2 and 3 are false.
- C. Statements 1 and 2 are true; statement 3 is false.
- D. Statements 1 and 3 are true; statement 2 is false.

Answer: A

428. **Directions:** Read the following statements regarding vapor dispersion and select your answer from choices A through D.

Statement 1: Vapor dispersion involves using water spray or fans to intentionally move vapors away from certain areas.

Statement 2: Vapor dispersion is always a good idea when flammable substances are the problem.

Statement 3: Vapor dispersion is only effective with materials that are water soluble.

- A. All three statements are true.
- B. Statement 1 is true; statements 2 and 3 are false.
- C. Statements 1 and 2 are true; statement 3 is false.
- D. Statements 2 and 3 are true; statement 1 is false.

Answer: B

429. Diversion, diking, and retention are all techniques used in:

- A. confinement.
- B. containment.
- C. neutralization.
- D. disposal.

Answer: A

430. Actions taken to confine a product release to a limited area, with these actions being performed remote from the spill location, are considered to be:

- A. offensive strategies.
- B. poor strategies.
- C. defensive strategies.
- D. unacceptable actions.

Answer: C

431. An **advantage** of confinement operations is that:

- A. confinement operations are solely the responsibility of specially trained teams.
- B. special equipment is utilized to ensure safety.
- C. direct exposure of personnel is avoided.
- D. containment is already achieved, increasing manpower.

Answer: C

43 T Structural fire-fighting protective clothing can be utilized to make rescues of live
2. F victims during a Haz mat incident involving chemicals.

Answer: T

433. Which of the following correctly identifies the purpose, advantages, and limitations of structural firefighting protective clothing at hazardous materials incidents?

- A. Protection from heat, moisture and ordinary hazards associated with firefighting; provides thermal, impact, and cut/abrasion protection; offers limited chemical protection.
- B. Protection from heat, moisture and hazards associated with firefighting; can be worn

for decontamination activities; is acid but not base resistant.

- C. Protection from heat and impacts; shields or insulates from chemical hazards; is corrosive resistant but not vapor tight.
- D. Protection from heat, moisture and impacts; provides long-term protection from extreme weather conditions and unlimited range of motion; is resistant to permeation, but not penetration.

Answer: A

434. Which of the following is a type of drum?

- A. Vessicants
- B. Wood barrels
- C. Open heads
- D. Bulk Containers

Answer: C

435. There are many ways that personnel, personal protective equipment, apparatus, and tools become contaminated. Of the following, all are means of contamination **except**:

- A. working in the hot zone.
- B. working upwind and uphill from the hot zone.
- C. parking apparatus downwind.
- D. working in the decontamination area.

Answer: B

436. All of the following statements about emergency decontamination are true **except**:

- A. it can be implemented without a formal decontamination area.
- B. it provides only gross decontamination.
- C. the victim may still pose a threat of secondary contamination.
- D. it removes the threat of secondary contamination.

Answer: D

437. _____ is designed to remove contaminants that pose immediate threat to life.

- A. Emergency decontamination
- B. Secondary decontamination
- C. Decontamination
- D. Primary decontamination

Answer: A

438. **Directions:** Read the following statements and select your answer from Alternatives A-D below.

Statement 1: A person may be exposed to large quantities of a hazardous material in concentrations that do not present a hazard or to small amounts of a hazardous material that present a very high hazard.

Statement 2: A person exposed to a hazardous material may not necessarily

be contaminated by it.

Statement 3: Responders working in the hot zone may become contaminated during control operations. If they then carry that contamination outside the hot zone, they may contaminate others.

- A. Statements 1, 2, and 3 are all true.
- B. Statements 1 and 2 are true; statement 3 is false.
- C. Statement 1 is true; statements 2 and 3 are false.
- D. Statement 1 is false; statements 2 and 3 are true.

Answer: A

439. The zone where contamination has occurred or has the potential to occur and requires established entry and exit control points, is known as a _____ zone.

- A. warm/contamination reduction
- B. safety
- C. hot/exclusion
- D. cold/support

Answer: C

440. The area that exists just outside the hot/exclusion zone is known as the:

- A. warm zone.
- B. command zone.
- C. support zone.
- D. staging area.

Answer: A

441. The _____ zone is the area of highest known hazard.

- A. limited-access
- B. hot/exclusion
- C. support
- D. blue

Answer: B

442. One of the factors that can change the evacuation area is:

- A. firefighters entering incidents from the north.
- B. a change in wind direction.
- C. the number of firefighters responding to the incident.
- D. the number of firefighters with SCBA.

Answer: B

443. All of the following are protective actions that must be taken during in-place protection **except**:

- A. closing all windows.
- B. closing all doors.
- C. monitoring local TV and radio stations.
- D. ensuring HVAC System remains operating.

Answer: D

444. When utilizing the safety showers at an industrial facility, the firefighter should:

- A. ask permission from the facility.
- B. never use private shower facilities.
- C. treat the patient before decon.
- D. verify where the runoff goes.

Answer: D

445. When sheltering in place, the citizens should be instructed to do all of the following **except**:

- A. shut all windows and doors.
- B. shut off air handling systems.
- C. stay tuned to a TV or radio.
- D. shut off all electrical appliances.

Answer: D

446. Prior to allowing responders to act, they should be briefed on all of the following **except**:

- A. the immediate goal.
- B. the material's effects.
- C. the escape route.
- D. how to plug a leak.

Answer: D

447. Which of the following **is not** a consideration when setting up an emergency decontamination area?

- A. Accessibility
- B. Location of incident command
- C. Location of water supply
- D. Surface material

Answer: B

448. When dealing with a Level III incident, it is expected that evacuation of people will cover an area of:

- A. several square blocks.
- B. large scale evacuation.
- C. one mile up wind.
- D. one block in each direction.

Answer: B

449. **Directions:** Read the following statements regarding hazardous materials incident control zones and select your answer from choices A through D.

Statement 1: The hot zone is the area immediately around the release.

Statement 2: The warm zone includes the decontamination area.

Statement 3: The command post is located in the warm zone.

- A. All three statements are true.
- B. Statement 1 is true; statements 2 and 3 are false.
- C. Statements 1 and 2 are true; statement 3 is false.

D. Statement 1 is false; statements 2 and 3 are true.

Answer: C

450. **Directions:** Read the following statements regarding Haz mat incidents involving criminal or terrorist activities, and select your answer from choices A through D.

Statement 1: Safety briefings should include approaching a potential terrorism incident in the same manner as a hazardous material incident.

Statement 2: If an explosion has occurred, the safety briefing should stress the potential that a secondary explosive device exists.

Statement 3: Safety briefings should include the reminder that the incident is also a crime scene, so evidence must be preserved.

- A. Statement 1 is true; statements 2 and 3 are false.
- B. Statements 1 and 2 are true; statement 3 is false.
- C. Statements 2 and 3 are true; statements 1 is false.
- D. All three statements are true.

Answer: D

451. **Directions:** Read the following statements regarding hazardous materials incident evacuation/sheltering-in-place and select your answer from choices A through D.

Statement 1: The decision to evacuate or shelter-in-place is relatively easy to make.

Statement 2: Sheltering-in-place is a method of safeguarding people in a hazardous area by keeping them in a safe atmosphere, usually inside structures.

Statement 3: Evacuation is always preferred over sheltering-in-place.

- A. Statement 1 is true; statements 2 and 3 are false.
- B. Statement 2 is true; statements 1 and 3 are false.
- C. Statements 2 and 3 are true; statement 1 is false.
- D. All three statements are true.

Answer: B

452. What should responders do with runoff from emergency decontamination?

- A. Flush into a convenient storm drain using copious amounts of water.
- B. Divert into an area where it can be treated or disposed of later.
- C. Try to delay decontamination until a decontamination corridor or area is established, which will eliminate the runoff problem.

- D. Perform the decontamination process in the hot zone so that runoff just becomes part of the original problem.

Answer: B

453. **Directions:** Read the following statements regarding safety briefings prior to allowing personnel to work at a hazardous material incident and select your answer from choices A through D.

Statement 1: Pre-incident survey information is vital to establishing briefing items.

Statement 2: MSDS information can be an important part of the briefing process.

Statement 3: Risk/benefit assessment is the **most** important item to be considered.

- A. Statement 1 is true; statements 2 and 3 are false.
- B. Statements 1 and 2 are true; statement 3 is false.
- C. Statement 1 is false; statements 2 and 3 are true.
- D. All three statements are true.

Answer: D

454. In Level I incidents, the response team should be able to deal with:

- A. LPG leaking from full 1000-pound tanks.
- B. ruptures of high-pressure gas lines.
- C. spills requiring evacuation.
- D. a natural gas leak in an occupancy.

Answer: D

455. At a terrorism event, when preserving evidence, it is important to do all of the following **except**:

- A. avoid touching anything unless necessary.
- B. minimize the number of people working in the area.
- C. take photographs or video of the scene.
- D. move evidence to another location.

Answer: D

456. Identify the five major functions within the Incident Command System.

- A. Command, Safety, Liaison, Information, and Operations
- B. Command, Planning, Safety, Logistics, and Finance
- C. Command, Operations, Planning, Logistics, and Finance
- D. Operations, Logistics, Planning, Support, and Service

Answer: C

457. Which of the following tasks at a hazardous materials incident is/are

provided by Logistics?

- A. Providing information to the media
- B. Coordinating interaction between law enforcement personnel and emergency response operations
- C. Monitoring the incident and personnel and assuring compliance with safety procedures
- D. Responsible for securing facilities, services, and equipment

Answer: D

458. The Safety Officer notices a critical emergency condition at an incident. The Safety Officer should:

- A. intervene in the unsafe action.
- B. discipline the offenders.
- C. take over the IC position.
- D. consult with on-scene personnel.

Answer: A

459. Once the Safety Officer arrives on the scene, the Incident Commander should:

- A. have the Safety Officer review the incident action plan.
- B. delegate command to the Safety Officer.
- C. place the Safety Officer under operations.
- D. make the Safety Officer a branch officer.

Answer: A

46 T When determining the location of the command post, it is vital that the
0. F incident commander can view the scene from it.

Answer: F

461. Level III incidents often require the technical expertise of _____ to be brought in for appropriate handling of such an incident.

- A. a specialist from an industrial and/or governmental team
- B. a mutual aid fire department
- C. firefighters with hazardous material clothing
- D. a government representative

Answer: A

462. The person who advises the Incident Commander of existing or potentially unsafe conditions, monitoring conditions of personnel, and compliance with standard operating procedures is the:

- A. Operations Officer.
- B. Safety Officer.

C. Recon Officer.

D. Team Leader.

Answer: B

463. When an Operations Section has not been staffed, staging reports to:

A. support.

B. logistics.

C. the safety officer.

D. command.

Answer: D

464. At a hazardous materials emergency, the Operations Section serves the task of:

A. establishing incident objectives.

B. controlling and overseeing equipment and personnel inventories.

C. controlling the tactical portion of the incident.

D. coordinating all medical and health concerns at the incident.

Answer: C

465. The _____ is the location where information gathering occurs, and both technical and administrative functions are assigned.

A. Command Post

B. Warm Zone

C. Staging Area

D. News Media Post

Answer: A

466. At a hazardous materials incident, the safety officer's responsibilities include all of the following **except**:

A. obtaining briefings from the Incident Commander.

B. participating in preparation of and monitoring the safety plan.

C. being the coordination point between the IC and any assisting agency.

D. altering, suspending, or terminating any activity that is judged to be unsafe.

Answer: C

467. Each individual reporting to only one supervisor defines:

A. Unified Command.

B. Unity of Command.

C. Span of Control.

D. Span of Operations.

Answer: B

468. At a suspected terrorist incident, evidence collection is **primarily** the responsibility of:

A. whoever located the evidence.

B. the Haz-Mat group.

C. law enforcement.

D. the CIA.

Answer: C

469. Who is responsible for requesting additional resources at a hazardous materials incident?

- A. Finance/Administration Chief
- B. Safety Officer
- C. Staging Officer
- D. Logistics Section Chief

Answer: D

470. Within the Incident Command System, the optimum span of control is:

- A. 5:1.
- B. 8:1.
- C. 10:1.
- D. 30:1.

Answer: A

471. A Level II incident that is beyond the normal capabilities of the first responder having jurisdiction and may require a response from:

- A. Chemtrec.
- B. a hazardous material response team.
- C. the National Radiological Commission.
- D. the National Response Center.

Answer: B

472. The individual responsible for establishing and managing the overall plan, developing an organizational structure, and allocating resources **best** describes the:

- A. Safety Officer.
- B. Incident Commander.
- C. Operations Sections Chief.
- D. Decontamination Officer.

Answer: B

473. There are different procedures and time intervals for SCBA inspections. Several are listed below in choices A through D. Which procedure should be used when restoring a unit to service after it has been used?

- A. Annual
- B. Biannual
- C. Monthly
- D. Daily

Answer: D

474. Which of the following components of a positive pressure self-contained breathing apparatus reduces high storage pressure and controls the flow of air to the user?

- A. PASS device
- B. Regulator
- C. Pressure gauge
- D. Valves

Answer: B

475. The first step or **most important** thing to accomplish upon arrival at a hazardous materials or suspected hazardous materials incident is:

- A. identification of the spilled or released product.
- B. victim recovery.
- C. notification of the hazardous materials response team.
- D. isolation of the area and prevention of entry.

Answer: D

476. When operating at a Haz-Mat scene, which of the following is required when using PPE?

- A. Brand of PPE available
- B. Utilization of the buddy system
- C. Mounting/storage method
- D. Speed in donning and activation

Answer: B

477. To minimize the physical limitations of PPE, a firefighter should:

- A. immediately remove the PPE.
- B. hydrate frequently.
- C. ignore heat stress when wearing PPE.
- D. remove his/her own PPE.

Answer: B

478. Respiratory protective equipment should be cleaned and inspected:

- A. before each use.
- B. after each use.
- C. while in rehab.
- D. between gross and fine decon.

Answer: B

479. Back-up personnel should be advised of the incident action plan and positioned in the _____ zone.

- A. hot
- B. warm
- C. cold
- D. emergency

Answer: C

480. When responding to a potential hazardous material incident, the safest way to approach the scene is to:

- A. take the most direct route to the scene.
- B. approach from downwind as this will allow you to detect any odors from a greater distance from the scene.
- C. approach from uphill and upwind even if it requires a longer response time.
- D. stage the vehicles downhill and upwind until the Haz mat team arrives.

Answer: C

481. When applying water to a highway tanker or railway tank car with flame impingement, the minimum amount of water to be used is _____ gpm at the point of flame impingement.

- A. 500 B. 1,000 C. 250 D. 2,000

Answer: A

482. A fire involving a DOT Hazard Class 5.1 oxidizer generally requires large volumes of:

- A. foam. B. water.
C. extinguishing powder. D. foam and extinguishing powder.

Answer: B

483. When a fire involves the cargo of a truck transporting explosives, the responders should:

- A. increase water application immediately.
B. try to separate unburned cargo.
C. attempt to move the involved vehicle to a safer location.
D. immediately evacuate the area.

Answer: D

484. When trying to prevent a BLEVE from occurring, the **most commonly** accepted minimum flow is _____ gpm.

- A. 250 B. 750 C. 500 D. 1000

Answer: C

485. A _____ sound often occurs when metal has been softened by high heat and pressure.

- A. crunching B. scraping C. pinging D. banging

Answer: C

486. What is the **best** course of action when confronted by a fire in a warehouse in which large amounts of pesticides are stored?

- A. Use foam to smother the fire.
B. Use large amounts of water to extinguish and dilute the pesticides.
C. Withdraw and allow the fire to consume the pesticides.
D. Extinguish the fire with dry chemicals verified to be nonreactive with the pesticides.

Answer: C

487. If the safety officer notices an unsafe activity at an emergency, the safety officer should:

- A. consult with the Incident Commander.
- B. stop the activity immediately.
- C. call the Incident Commander on the radio.
- D. report the activity to the highest rank.

Answer: B

488. At a hazardous materials incident, the assistant safety officer directly reports to the:

- A. Incident Commander.
- B. Safety Officer.
- C. dispatcher.
- D. Haz Mat Team Leaders.

Answer: D

489. At a hazardous materials incident, a special technical group is typically added to the basic IMS system. Under which of the function areas does it develop?

- A. Planning
- B. Logistics
- C. Command
- D. Operations

Answer: D

490. What is unique about hazardous materials IMS?

- A. There are typically two safety officers assigned.
- B. Back-up teams are more more important than for fire incident IMS.
- C. There is no need for a financial and administrative function because the spiller is automatically responsible for all costs.
- D. A hot zone entry team is added under the logistics function.

Answer: A

491. Which of the following **is true** regarding hazardous materials incident command post?

- A. They should be identified by a flashing red light.
- B. They should be established in the warm zone.
- C. It is absolutely necessary that they be positioned so that the Incident Commander can observe the scene.
- D. Its location should be relayed to the dispatcher and responding personnel.

Answer: D

492. The taking of hazardous materials into the body through the undamaged skin and the eyes is called:

- A. absorption.
- B. ingestion.
- C. inhalation.
- D. injection.

Answer: A

493. When considering personnel protection, remember that the **most common** route of exposure for an emergency responder is:

- A. skin absorption.
- B. heat stress (thermal effects).
- C. the eyes.
- D. the respiratory system.

Answer: D

494. Work uniforms that provide minimal protection **best** defines EPA Level _____ protection.

- A. A
- B. B
- C. C
- D. D

Answer: D

495. The highest level of respiratory protection is needed but lesser chemical protection is required for the skin **best** defines EPA Level _____ Protection.

- A. A
- B. B
- C. C
- D. D

Answer: B

496. The type of breathing system that **cannot** be utilized in an oxygen deficient atmosphere is a(n):

- A. supplied-air respirator.
- B. rebreather equipment.
- C. air-purification respirator.
- D. SCBA.

Answer: C

497. Self-contained breathing apparatus and supplied air respirators, are two types of:

- A. rebreather equipment.
- B. air-purification devices.
- C. air-filtration devices.
- D. atmosphere supplied devices.

Answer: D

498. Exposure to _____ materials may cause freeze burns and frostbite.

- A. corrosive
- B. carcinogen
- C. radiation
- D. cryogenic

Answer: D

499. The **most** critical parameter when selecting the appropriate level of chemical protective equipment is:

- A. flexibility.
- B. decontamination abilities.
- C. available sizes.
- D. chemical compatibility.

Answer: D

500. The highest level of protection, based on EPA guidelines, from hazardous chemicals provided by chemical protective clothing is:

- A. Level A. B. Level B. C. Level C. D. Level D.

Answer: A

501. The **minimum** level of respiratory protection for employees engaged in emergency response and exposed to an unknown hazardous substance is a(an):

- A. air purifying respirator.
B. supplied air respirator.
C. positive pressure self-contained breathing apparatus.
D. pressure demand self-contained breathing apparatus.

Answer: C

502. Which of the following **is not** a physical limitation of personnel working in a positive pressure SCBA?

- A. Physical condition B. Agility
C. Facial features D. Height and weight

Answer: D

503. This suit is used where splashes may occur, but where respiratory hazards are minimal.

- A. Level A B. Level B C. Level C D. Level D

Answer: C

504. **Directions:** Read the following statements regarding cold stress and select your answer from choices A through D.

Statement 1: When decontamination and doffing of PPE occurs in a cold environment, the body can cool rapidly.

Statement 2: Wet clothing extracts heat from the body up to 240 times faster than dry clothing, which can lead to hypothermia.

Statement 3: Hypothermia, while serious, is **not** a true medical emergency.

- A. All three statements are true.
B. Statement 1 is true; statements 2 and 3 are false.
C. Statements 1 and 2 are true; statement 3 is false.
D. Statements 2 and 3 are true; statement 1 is false.

Answer: C

505. Proximity gear allows the wearer in close proximity to a burning liquid. It offers

protection for temperatures up to:

- A. 100° to 200° F.
- B. 300° to 400° F.
- C. 500° to 750° F.
- D. 900° to 1000° F.

Answer: B

506. A vapor-tight suit which resists permeation by most chemicals is known as a:

- A. level A.
- B. level B.
- C. level C.
- D. level D.

Answer: A

507. When entering a hazardous area, the best SCBA to use is a:

- A. 4500 psi 30 minute bottle.
- B. 2216 psi 30 minute bottle.
- C. 2216 psi 45 minute bottle.
- D. 4500 psi 60 minute bottle.

Answer: D

508. What single item makes a Level B ensemble different from the lower levels of PPE?

- A. APR
- B. SCBA
- C. Hard hat
- D. Inner/outer gloves

Answer: B

509. Dizziness, headache, nausea, vomiting, diarrhea, and decreased urine output are all signs of:

- A. heat stroke.
- B. heat cramps.
- C. heat exhaustion.
- D. Both B and C are correct.

Answer: C

510. The hazardous materials PPE ensemble level **most commonly** used is:

- A. Level A.
- B. Level B.
- C. Level C.
- D. Level D.

Answer: B

511. There are many limitations for personnel working in SCBA. Of the following, all are limitations **except**:

- A. SCBA places a strain on the wearer's cardiovascular system.
- B. some wearers may be claustrophobic.
- C. wearers do not have to be medically certified to wear a SCBA.
- D. wearers must be trained.

Answer: C

512. Heat _____ occurs when the circulatory system begins to fail, resulting in

rapid, shallow breathing and cool, clammy skin.

- A. cramps B. exhaustion C. rash D. stroke

Answer: B

513. Symptoms of heat _____ include little or no sweating; hot, dry, red, skin; deep, \ then shallow breathing; and rapid pulse.

- A. stroke B. exhaustion C. cramps D. rash

Answer: A

514. When donning an SCBA with a Level A suit, the SCBA is:

- A. worn inside the PPE. B. worn outside the PPE.
C. worn intermittently. D. donned last.

Answer: A

515. When assisting emergency personnel out of their personal protective equipment (PPE), it is important to remember to:

- A. immediately remove PPE as quickly as possible to allow personnel to cool rapidly and avoid overheating.
B. remove PPE slowly so as not to shock the body.
C. cut off all PPE since it can not be used again.
D. Both A and C are correct.

Answer: B

516. **Directions:** Read the following statements regarding excessive heat disorders and select your answer from choices A through D.

Statement 1: Heat exhaustion occurs because the body is unable to dissipate excessive heat and becomes overheated.

Statement 2: Heat stroke results from the failure of the temperature-regulating capacity of the body.

Statement 3: Both heat exhaustion and heat stroke are immediate life-threatening conditions.

- A. All three statements are true.
B. Statement 1 is true; statements 2 and 3 are false.
C. Statements 1 and 2 are true; statement 3 is false.
D. Statement 1 is false; statements 2 and 3 are true.

Answer: C

517. **Directions:** Read the following statements regarding limitations of personnel working in PPE and select your answer from choices A-D.

Statement 1: A responder's physical, mental, or emotional condition can cause problems with using PPE.

Statement 2: Practice and conditioning can help reduce psychological limitations of PPE users.

Statement 3: Training and education can help reduce physical limitations of PPE users.

- A. Statement 1 is true; statements 2 and 3 are false.
- B. Statements 1 and 2 are true; statement 3 is false.
- C. Statement 1 is false; statements 2 and 3 are true.
- D. All three statements are true.

Answer: A

Directions: Match the function of the components of positive pressure self-contained breathing apparatus listed in Column A with the name of the component, listed in Column B.

Column A

Column B

- 518. Supports the SCBA components worn by the Haz mat responder
- 519. Stores the compressed air supply
- 520. Indicates the quantity of air available
- 521. Allows SCBA to be used even if regulator malfunctions
- 522. Reduces the high cylinder pressure to a useable lower pressure and controls air flow to the user

- A. Emergency by-pass mode
- B. SCBA regulator
- C. Face piece
- D. Air cylinder
- E. Pressure gauge
- F. Backpack

Answer: F,D,E,A,B

523. Which of the following cooling systems **are not** typically used for emergency response applications?

- A. Ice cooled vests B. Liquid-cooled vests C. Air-cooled jackets
D. All of the above E. F.

Answer: C

524. What PPE would you use for a material that had a LC50 of 5 mg/kg, had a high vapor pressure and was dermally toxic?

- A. Level A B. Level B C. Level C D. Level D

Answer: A

525. The following **limitations** are indicative of what type of chemical vapor suit?

1. SCBA exposed to the atmosphere without protection
2. Facepiece compatibility may not be equivalent to suit compatibility.
3. The chemical compatibility of belts, straps & harnesses may not be known.

- A. Level A Fully Encapsulating (Type 1) B. Level B, with SCBA (Type 2)
C. Level C (Type 3) D. Level D (Type 4)

Answer: B

526. The **most** critical parameter when selecting the appropriate level of chemical protective equipment is:

- A. flexibility. B. decontamination abilities.
C. available sizes. D. chemical compatibility.

Answer: D

527. When considering personal protection, remember that the **most common** route of exposure for an emergency responder is:

- A. skin absorption. B. ingestion.
C. the eyes. D. the respiratory system.

Answer: D

528. The process by which a chemical enters a protective suit through openings in the garment **best** describes:

- A. degradation. B. breakthrough time.
C. penetration. D. permeation.

Answer: C

529. The physical destruction or decomposition of chemical protective clothing (CPC) by a chemical action is called:

- A. degradation.
- B. breakthrough time.
- C. penetration.
- D. permeation.

Answer: A

530. The **maximum** hose length allowed by NIOSH when using an airline hose respirator is _____ feet.

- A. 100
- B. 200
- C. 300
- D. There is no limit as long as a secondary escape system is available.

Answer: C

531. The highest level of respiratory protection is needed but lesser chemical protection is required for the skin **best** describes Level _____ protection.

- A. A
- B. B
- C. C
- D. D

Answer: B

532. The best protective material against a specific chemical is one that has a low _____ rate (if any) and a long _____ time.

- A. breakthrough, permeation
- B. permeation, breakthrough
- C. penetration, degradation
- D. permeation, degradation

Answer: B

533. The elapsed time between initial contact of a chemical with the outside surface of the chemical protective equipment and detection at the inside surface of the material is called:

- A. degradation.
- B. breakthrough time.
- C. penetration.
- D. permeation.

Answer: B

534. The chemical action involving the movement of chemicals, on a molecular level, through intact materials **best** defines:

- A. degradation.
- B. breakthrough time.
- C. penetration.
- D. permeation.

Answer: D

535. _____ is usually based upon standardized laboratory tests that may

incorporate
a very large safety factor.

- A. Degradation
- C. Permeation

- B. Penetration
- D. Both B & C are correct.

Answer: D

536. There is no assurance that once decontamination of chemical protective clothing is complete, _____ has ceased.

- A. chemical metabolism
- C. permeation

- B. abrasion
- D. penetration

Answer: C

537. Chemical permeation rates are a result of:

- A. temperature, thickness, previous exposures, and chemical combinations.
- B. strength, flexibility, current exposure, and ambient temperature.
- C. temperature, chemical mixtures, and corrosiveness.
- D. chemical resistance, thickness, decontamination, and time.

Answer: A

538. _____ is the flow of a hazardous material through zippers, pinholes or other material imperfections found in chemical protective clothing.

- A. Degradation
- B. Penetration
- C. Permeation
- D. Diffusion

Answer: B

539. The physical destruction or decomposition of chemical protective clothing material due to exposure to chemicals, general use, or ambient conditions defines:

- A. degradation.
- B. penetration.
- C. permeation.
- D. diffusion.

Answer: A

540. The type of breathing system that **cannot be** utilized in an oxygen deficient atmosphere is a(n):

- A. supplied-air respirator.
- B. rebreather equipment.
- C. air-purification respirator.
- D. SCBA.

Answer: C

541. Self-contained breathing apparatus and supplied air respirators are two types of:

- A. rebreather equipment.
- B. air-purification devices.
- C. air-filtration devices.
- D. atmosphere supplied devices.

Answer: D

542. The highest level of protection from hazardous chemicals provided by chemical protective clothing is:

- A. Level A. B. Level B. C. Level C. D. Level D.

Answer: A

Directions: Match the words in Column A with their definition in Column B. Mark your answer sheet for each definition.

Column A

Column B

543. Degradation

544. Permeation

545. Penetration

- A. Movement of material through closures
B. Occurs on molecular level
C. Physical damage from chemical
D. Time for chemical to move through suit

Answer: C,B,A

- 54 T Level A suit will protect the responder from ill effects from all
6. F hazardous materials.

Answer: F

- 54 T Hazardous materials releases that involve excessive noise levels only cause
7. F psychological stress to personnel in specialized protective clothing.

Answer: F

548. Physical stresses that can affect users of specialized protective clothing include all of the following **except**:

- A. heat cramps.
B. wind chill.
C. emotions/stress.
D. loud noises that interfere with communication.

Answer: C

- 54 T An ice-cooled vest consists of frozen ice packs placed in a vest and operates
9. F on the principle of conductive heat cooling. Studies have indicated that ice vests are better than air cooled units and water cooled jackets.

Answer: T

550. A vest consisting of a battery or power source, a pump, and an ice/water or cooling agent container where the cooling agent is circulated throughout the garment and operates on the principle of conductive heat transfer is known as a(n) _____ vest.

- A. air cooled
- B. ice
- C. air and water cooled
- D. water cooled

Answer: D

551. An air cooling system consists of small airlines providing _____ cooling of the user by blowing cool air over the body inside a suit or vest.

- A. radiant
- B. conductive
- C. recirculating
- D. convective

Answer: D

552. When using air purifying respirators, which of the following **is not** an operational component that should be considered prior to use?

- A. The supplied air line cannot exceed 300 feet.
- B. The appropriate cartridge/filter is selected prior to use.
- C. The concentration of the chemical is known.
- D. Ambient air must contain at least 19.5% oxygen.

Answer: A

553. Which of the following **is not** an operational consideration when using supplied air respirators?

- A. NIOSH certification limits the maximum hose length from the source to 300 feet.
- B. Use of airlines in an oxygen deficient atmosphere requires a secondary emergency air supply.
- C. The proper air filtering cartridge for the expected contaminants must be selected.
- D. The airline hose is vulnerable to physical damage, chemical contamination, and degradation.

Answer: C

554. An advantage of using a Level A with Supplied Air Respirators (Type 3) chemical vapor suit is:

- A. greater comfort and mobility because of the close-fitting cut.
- B. a turnout coat or limited use garment can be worn over the suit for additional protection.
- C. air cylinders can be removed or changed without opening the suit.
- D. that it permits extended operations.

Answer: D

555. The following **advantages** are indicative of what type of chemical vapor suit?

1. It offers maximum level of protection to the user.
2. Positive internal pressure may help to minimize minor leaks.
3. If the SCBA malfunctions, the user may have some time to reach a nonhostile environment.

- A. Level A Fully Encapsulating (Type 1) B. Level B SCBA (Type 2)
C. Level C (Type 3) D. Level D (Type 4)

Answer: A

Directions: Match the heat-related injury in Column A with its unique sign or symptom, located in Column B.

Column A

Column B

556. Heat exhaustion
557. Heat stroke
558. Heat stress

- A. Hot, dry, red skin
B. Cool, moist skin
C. Muscle cramps in legs and abdomen
D. Heightened state of unconsciousness

Answer: B,A,C

559. Which of the following is a true life-threatening emergency that requires immediate attention?

- A. Heat exhaustion B. Heat stroke C. Heat stress D. Heat cramps

Answer: B

56 T Hypothermia is a lowered body core temperature.

0. F

Answer: T

561. Chemical vapor protective clothing should be used when _____ are suspected.

- A. extremely hazardous substances
B. corrosives
C. splash hazards
D. All of the above

Answer: D

562. Given an incident involving anhydrous ammonia, the decontamination of crew members through the use of water and soap is known as:

- A. dilution. B. adsorption. C. absorption. D. neutralization.

Answer: A

563. All of the following are procedures for personnel wearing vapor-protective clothing requiring emergency decon **except**:

- A. conduct on-the-spot gross rinse of the PPE.
B. conduct fine decon.
C. transfer patient to decon area.
D. minimize interior contamination.

Answer: B

564. All of the following are safety guidelines for the use of vapor protective clothing **except**:

- A. a radio system backed by hand signals is a minimum requirement.
B. always minimize contact with any chemicals.
C. ensure that the backup team is wearing at least the same level of protection as the entry team.
D. as a rule, one support person is necessary for every two entry people.

Answer: D

565. Diking, damming, and diverting are _____ options available for _____ control.

- A. offensive; spill B. defensive; leak
C. defensive; spill D. offensive; leak

Answer: C

566. As a first responder trained to the operations level, which spill control tactics can be conducted?

- A. Absorption B. Dilution C. Vapor Suppression
D. All of the above. E. F.

Answer: D

567. _____ is the controlled burning of a liquid or gas to reduce or control the pressure and/or to dispose of the product.

- A. Flammable range B. Boilover C. Flaring D. Frothover

Answer: C

568. Another technique for reducing or controlling pressure and/or disposing of the contents is called:

- A. flaring.
- B. over-packing.
- C. pressure patches.
- D. banding.

Answer: A

56 T Vent and burn is the last option at a Hazardous Materials/WMD scene.

9. F

Answer: T

570. A(n) _____ is recommended to include information such as: site information, analysis of site hazards, risk analysis, PPE and a work plan.

- A. site response plan
- B. site safety plan
- C. incident response plan
- D. command safety plan

Answer: B

571. The eight-step process recommended for assessing a hazardous materials incident includes:

- A. hazard and risk evaluation.
- B. implementing response objectives.
- C. sniffing for odors, and tasting the material.
- D. Both A & B are correct.

Answer: D

572. When using water to extinguish a fire involving pesticides or a poison, the responder should consider the impact of:

- A. viscosity.
- B. resistance to solubility.
- C. run-off contamination.
- D. concentration.

Answer: C

573. Prior to entry into a confined space, defensive actions taken should include:

- A. diking or remote closing a valve.
- B. pretest all equipment.
- C. brief all personnel on the incident action plan.
- D. establish a crew rotation schedule.

Answer: A