# Hazardous Materials for First Responders

Questions and Answers

From IFSTA Hazmat for First Responders 4th Edition

## Hazardous Materials Identification

1. How many digits are included in the identification number assigned to materials under the UN system?
p. 107

*A.) Four
B.) Three
C.) Five
D.) Six

2. Which of the following is NOT a characteristic seen on the high-pressure tank?
p. 88

*A.) Insulated made from steel
B.) Single steel compartment
C.) Bolted manway at front or rear
D.) Guard cage around the bottom loading/unloading piping

3. With which type of attack are symptoms immediately (seconds to hours after exposure) evident?
p. 154

A.) Biological
*B.) Chemical
C.) Radiological
D.) Explosive

4. Which hazard class is required to include text indicating a hazards is present?
p. 110

A.) Class 2
*B.) Class 7
C.) Class 5
D.) Class 1

5. What material is used to construct carboys?
p. 103

A.) Woven material
B.) Aluminum
C.) Paper
*D.) Plastic

6. Which label would be placed on a shipment of uranium-233?
p. 122

*A.) Fissile
B.) Radioactive III
C.) Radioactive II
D.) Radioactive IV

7. Which type of containers are insulated, vacuum-jacketed tanks with safety-relief valves and rupture disks?
p. 79

A.) Noded spheroid tanks
*B.) Cryogenic-liquid storage tanks
C.) Spheroid tanks
D.) Spherical pressure vessels

8. Which is a commonly found content of ton containers?
p. 102

*A.) Chlorine
B.) Freon
C.) Sulfur dioxide
D.) Anhydrous ammonia

9. What is present on the corrosive liquid tank around the valve assembly that serves as rollover protection?
p. 87

*A.) Splashguard
B.) Rupture disk vent
C.) Stiffening rings
D.) Discharge piping

10. Which NFPA standard provides a widely recognized method for indicating the presence of hazardous materials at commercial and manufacturing facilities?
p. 133

A.) NFPA 301
B.) NFPA 462
C.) NFPA 903
*D.) NFPA 704

11. Which of the following should NOT be used to identify the contents of the intermodal container?
p. 92

A.) Shipping papers
B.) Placards
C.) Container markings
*D.) Tank shape

12. Which is a unit of pressure relative to the surrounding atmosphere?
p. 73

*A.) Pound-force per square inch gauge
B.) Pounds per square inch
C.) Atmospheric pressure
D.) Kilopascal

13. Which are typically box-shaped, flat-decked vessels used for transporting cargo?
p. 99

A.) Tankers
B.) Roll-on/roll-off vessels
C.) Bulk carriers
*D.) Barges

14. How many separate tanks can be on a chemical carrier?
p. 97

A.) 40 to 97
B.) 20 to 68
*C.) 30 to 58
D.) 50 to 67

15. Which class is used to indicate materials that emit flammable gases on contact with water under the UN system?
p. 106

A.) Class 9
B.) Class 1
*C.) Class 4
D.) Class 7

16. What color may the top two-thirds of the tank be painted when the pressure tank car is not insulated?
p. 82

*A.) White
B.) Green
C.) Blue
D.) Red

17. With which mode of transportation will more hazardous materials incidents be seen at pumping stations?
p. 69

A.) Airways
B.) Railways
*C.) Pipelines
D.) Roadways

18. Which type of tank is used to store corrosives and poisons?
p. 75

A.) Cone roof tank
B.) Covered top floating roof tank
*C.) Horizontal tank
D.) Open top floating roof tank

19. What is the first thing that responders must do at an incident involving hazardous materials?
p. 64

A.) Identify what the hazardous materials are
B.) Contact the building owner for more assistance
C.) Locate the appropriate paperwork about the materials
*D.) Identify the presence of the hazardous materials

20. Which mode of transportation is used with Type C packages?
p. 105

A.) Highway
*B.) Air
C.) Rail
D.) Water

21. What does the second group on the specification marking indicate?
p. 131

A.) Tank test pressure
B.) Approving authority
C.) Separator letter
*D.) Class number

22. What material is used to construct the cylinders that are banded together on the compressed-gas/tube trailer?
p. 90

A.) Iron
B.) Aluminum
C.) Copper
*D.) Steel

23. What must the container be a receptacle for when the maximum capacity is greater than 119 gallons (450 L)?
p. 72

A.) Gas
B.) Solid
*C.) Liquid
D.) Vapor

24. Which of the following is NOT listed as part of Class 1 Division 1.2?
p. 113

A.) Rockets (with bursting charge)
B.) Detonation cord
*C.) Dynamite
D.) Flares

25. Which is NOT a correct guideline for protecting against possible secondary devices?
p. 161

A.) Manage the scene with cordons and boundaries
B.) Anticipate the presence of a secondary device at any suspicious incident
*C.) Visually search for a secondary device while moving through the area
D.) Evacuate victims and nonessential personnel as quickly as possible

26. Which signal word is used to indicate the highest degree of hazard on consumer goods?
p. 137

A.) WARNING
*B.) DANGER
C.) CAUTION
D.) POISON

27. Which is the most common intermodal tank used in transportation?
p. 93

*A.) Low-pressure intermodal tank
B.) Vessel intermodal tank
C.) Pressure intermodal tank
D.) Specialized intermodal tank

28. Which of the following is NOT seen with an explosive/incendiary attack?
p. 158

A.) Reports of an explosion
B.) Unattended packages in public areas
C.) Unusually fast burning fires
*D.) Electromagnetic pulse

29. Which radioactive label indicates the package has an external radiation level or fissile characteristic that requires consideration during stowage in transportation?
p. 122

A.) Radioactive III
*B.) Radioactive II
C.) Radioactive IV
D.) Radioactive I

30. In which situation does the ERG provide limited value?
p. 149

A.) Causeway incident
*B.) Fixed-facility location
C.) Highway incident
D.) Railroad location

31. Which is NOT a symptom of changes in excretion after exposure to a hazardous material?
p. 152

A.) Frequent urination
*B.) Vomiting
C.) Uncontrolled tears
D.) Diarrhea

32. Who should be contacted first when you need a train list?
p. 145

*A.) Train crew
B.) Railroad
C.) Shipper
D.) Receiver

33. On how many sides of the railcar should the reporting marks be placed?
p. 130

A.) One
*B.) Four
C.) Two
D.) Three

34. Where is the protective housing usually mounted on the pressure tank car?
p. 81

A.) Top front of the tank
*B.) Top center of the tank
C.) Top side of the tank
D.) Top rear of the tank

35. Which type of intermodal tank is used to transport alcohols, pesticides and resins, but is being gradually removed from service?
p. 94

A.) IM 104 portable tank
*B.) IM 102 portable tank
C.) IM 103 portable tank
D.) IM 101 portable tank

36. Which of the following exclusively carries liquid products in bulk?
p. 96

*A.) Tanker
B.) Freighter
C.) Container
D.) Barge

37. Which division of the explosives class contains materials with a mass explosion hazard?
p. 113

A.) Division 1.3
B.) Division 1.2
C.) Division 1.4
*D.) Division 1.1

38. What is the maximum amount of time the combination of insulation and vacuum will protect the contents of the cryogenic liquid tank car from ambient temperatures?
p. 82

A.) 45 days
B.) 15 days
*C.) 30 days
D.) 60 days

39. Which of the following is used to transport vehicles and liquids in drums?
p. 99

A.) Container vessel
B.) Roll-/roll-off vessel
C.) Bulk carrier
*D.) Break bulk carrier

40. Which hazard zone is established within Class 2 Division 2.3 materials when the LC50 is less than or equal to 200 ppm?
p. 114

A.) Zone C
B.) Zone D
C.) Zone B
*D.) Zone A

41. Which division of the explosion class contains materials that demonstrate a negligible probability of accidental initiation or propagation?
p. 113

A.) Division 1.5
B.) Division 1.4
C.) Division 1.3
*D.) Division 1.6

42. Which of the following generally uses large insulated spherical tanks for product storage when transporting LNG and LPG?
p. 98

A.) Cargo vessels
B.) Chemical carriers
C.) Petroleum carriers
*D.) Liquefied flammable gas carriers

43. Which number would be seen in the health section of the NFPA 704 placard to indicate a severe hazard?
p. 134

A.) 1
B.) 2
C.) 3
*D.) 4

44. What shape are the ends of the low-pressure chemical tank?
p. 86

A.) Hexagonal
*B.) Rounded
C.) Square
D.) Flattened

45. Which of the following is an example of a material included in Division 2.2 of the gases class?
p. 114

A.) Carbon monoxide
*B.) Carbon dioxide
C.) Oxygen
D.) Methane

46. What is an example of a material that would be labeled with the "Flammable" placard?
p. 115

A.) Diesel
B.) Fuel oil
*C.) Gasoline
D.) Pine oil

47. How many 55-gallon (208 L) drums worth of material can a common-sized supersack hold?
p. 101

*A.) Four to five
B.) Five to six
C.) Six to seven
D.) Three to four

48. Which type of laboratory is most likely present when agar plates are present?
p. 160

*A.) Biological
B.) Methamphetamine
C.) Chemical warfare agent
D.) Explosives

49. Which division of Class 6 materials does NOT have a placard?
p. 117

A.) Division 6.1
B.) Division 6.4
C.) Division 6.3
*D.) Division 6.2

50. Which of the following is an acronym that can be used to identify the symptoms of exposure to chemical warfare agents?
p. 156

A.) DROLENT
*B.) SLUDGEM
C.) GELGADS
D.) IMPACTS

51. What should first responders be able to use at transportation incidents to identify hazardous materials?
p. 144

*A.) Shipping papers
B.) Inventory records
C.) Manufacturer information
D.) Safety data sheets

52. Which type of tanks have pressures between 0.5 psi to 15 psi (3.45 kPa to 103 kPa)?
p. 73

A.) Atmospheric pressure storage tanks
B.) High-pressure storage tanks
C.) Nonpressure storage tanks
*D.) Low-pressure storage tanks

53. Within what amount of time of being exposed to air can Class 4 Division 4.2 materials ignite?
p. 116

A.) 10 minutes
B.) 20 minutes
*C.) 5 minutes
D.) 15 minutes

54. What color is used on Canadian placards to indicate flammable gases?
p. 125

A.) Green
B.) Yellow
C.) White
*D.) Red

55. In which category does a financial institution fit?
p. 70

A.) Educational site
*B.) Critical infrastructure
C.) High profile building
D.) Industrial site

56. Which type of packaging is used to transport materials that have very limited radioactivity?
p. 104

*A.) Excepted
B.) Type A
C.) Industrial
D.) Type B

57. Which packing group indicates minor danger?
p. 117

A.) PG IV
B.) PG II
C.) PG I
*D.) PG III

58. Which of the following is NOT considered an indication of a terrorist event?
p. 153

A.) Reported explosion at a movie theater
B.) Emergency at a large gathering location
*C.) Single, tragic medical presentation
D.) Two or more medical emergencies in a public location

59. With U.S. military symbols, what color is the chemical hazard symbol that indicates the presence of harassing agents such as riot control agents?
p. 142

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

60. Which requires that employers identify hazards in the workplace and train employees to recognize those hazards?
p. 134

A.) Color Coding Standard
B.) CAS Numbering System
*C.) Hazard Communication Standard
D.) International Safety System

61. What is the maximum size of the drum used in nonbulk packaging?
p. 104

*A.) 100 gallons (379 L)
B.) 75 gallons (284 L)
C.) 125 gallons (474 L)
D.) 55 gallons (208 L)

62. Which placard is placed on a PCB shipment?
p. 118

A.) ORM-D
B.) Dangerous
C.) Corrosive
*D.) Miscellaneous

63. Which route of entry are toxic effects of corrosives seen?
p. 118

A.) Ingestion
B.) Inhalation
C.) Skin exposure
*D.) All routes

64. What is most likely the form of the contaminant during a radiological attack?
p. 157

*A.) Dust
B.) Liquid
C.) Solid
D.) Paper

65. Which is a common label used in Canada to identify hazards in the workplace?
p. 135

A.) Exemption label
B.) Hazard label
*C.) Supplier label
D.) Package label

66. What can be used for local delivery of liquefied petroleum gas and anhydrous ammonia?
p. 88

A.) Liquid bulk cargo trailer
*B.) High-pressure bobtail tank
C.) Compressed-gas/tube trailer
D.) Cryogenic liquid tank

67. What does DOT require is listed on the subsidiary label?
p. 120

A.) Specification
B.) Hazard level
C.) Content name
*D.) Class number

68. Which of the following is assigned to individual chemicals?
p. 138

A.) CCO numbers
B.) NFA numbers
*C.) CAS numbers
D.) GPS numbers

69. Where is a properly designed and maintained atmospheric storage tank more likely to fail?
p. 74

A.) Shell-to-bottom seam
B.) Shell-to-roof seam
*C.) Shell-to-top seam
D.) Shell-to-side seam

70. What is done on intermodal tanks and containers to indicate that the material will react dangerously with water?
p. 109

A.) Place a "0" at the end of the number
B.) Use a "9" as the second digit
C.) Double the number
*D.) Place an "X" in front of the number

71. Which does not include provisions for the use of the DANGEROUS placard in Mexican standards?
p. 129

A.) NOM-304
B.) NOM-204
*C.) NOM-004
D.) NOM-104

72. Which of the following is NOT considered a primary hazard of Class 4 materials?
p. 115

A.) Mechanical
B.) Chemical
*C.) Asphyxiation
D.) Thermal

73. What are the newer nonpressure liquid tanks constructed from?
p. 85

A.) Iron
*B.) Aluminum
C.) Steel
D.) Copper

74. What is the maximum pressure found in the corrosive liquid tank?
p. 87

A.) 100 psi (689 kPa)
B.) 40 psi (172 kPa)
*C.) 75 psi (517 kPa)
D.) 52 psi (152 kPa)

75. With which type of storage tank is there a dangerous vapor space when the tank is not completely full?
p. 75

A.) Horizontal tank
*B.) Cone roof tank
C.) Lifter roof tank
D.) Open top floating roof tank

76. Where are the specification plates usually found on the vehicle?
p. 129

A.) Passenger's side door
B.) Interior panel
C.) Loading/unloading door
*D.) Driver's side door

77. What color is used to indicate an instability hazard in the NFPA 704 hazard identification system?
p. 134

A.) White
B.) Blue
C.) Red
*D.) Yellow

78. What is a physical description of the cryogen liquid tank?
p. 89

A.) Large hemispherical heads on both ends
B.) Straight tank with rounded ends
C.) Small-diameter round shape
*D.) Round tank with flat ends

79. Which is used to store combustible liquids of medium volatility and other nonhazardous materials?
p. 76

*A.) Vapordome roof tank
B.) Cone roof tank
C.) Covered top floating roof tank with geodesic dome
D.) Lifter roof tank

80. What is the atmospheric pressure at sea level?
p. 73

A.) 19.2 psi (132 kPa)
B.) 18.1 psi (125 kPa)
C.) 12.9 psi (89 kPa)
*D.) 14.7 psi (101 kPa)

81. Which are commonly used to transport bulk amounts of hazardous materials via roadways?
p. 84

*A.) Cargo tank truck
B.) Dry van container
C.) Covered hopper car
D.) Chemical carrier

82. From which source does first evidence that hazardous materials are present at an emergency often come?
p. 66

A.) MSDS paperwork
B.) Scene size-up
*C.) Facility manager
D.) Pre-incident plan

83. When an atmospheric tank is used to store flammable and combustible liquids, where should it be designed to fail in the event of an explosion?
p. 74

A.) Shell-to-top seam
B.) Shell-to-bottom seam
C.) Shell-to-side seam
*D.) Shell-to-roof seam

84. Which signal word on a consumer products indicates the product has moderate hazards such as significant health effects or flammability?
p. 137

A.) DANGER
B.) CAUTION
C.) POISON
*D.) WARNING

85. What material is NOT typically used to make a rigid intermediate bulk container?
p. 101

*A.) Copper
B.) Steel
C.) Fiberboard
D.) Aluminum

86. Which of the following is NOT an example of nonbulk packaging?
p. 72

A.) Carboy
B.) Drum
*C.) Railcar
D.) Bag

87. What color placard is used on containers of flammable liquids?
p. 144

A.) White
*B.) Red
C.) Orange
D.) Blue

88. Which is a specialized bacteria that lives and multiplies in the gastrointestinal tract of arthropod carriers?
p. 156

*A.) Rickettsia
B.) Ebola
C.) Salmonella
D.) Cholera

89. What should be done immediately if terrorism is suspected at an incident site?
p. 71

A.) Contact the local mitigation team
B.) Evacuate the immediate area
C.) Determine the underlying reason
*D.) Notify law enforcement immediately

90. Up to what pressure will normally be inside a nonpressure tank?
p. 73

A.) 1.5 psi (10.35 kPa)
*B.) 0.5 psi (3.45 kPa)
C.) 2.0 psi (13.80 kPa)
D.) 1.0 psi (6.90 kPa)

91. What do a majority of terrorist attacks involve?
p. 158

*A.) Explosive materials
B.) Nuclear materials
C.) Biological weapons
D.) Radiological weapons

92. Below which number is NOT listed in the ERG?
p. 108

A.) 4000
B.) 3000
C.) 2000
*D.) 1000

93. What does the HCS require U.S. employers to maintain for all of their hazardous substances?
p. 150

A.) PCRs
B.) ACTs
C.) MSDSs
*D.) CILs

94. In which space on the Emergency Sheet for the Transport of Hazardous Materials and Wastes will the first responder find the PPE needed?
p. 147

*A.) Space 11
B.) Space 5
C.) Space 4
D.) Space 14

95. Which color placard is used to indicate a nonflammable gas?
p. 111

A.) Yellow
B.) Red
*C.) Green
D.) White

96. Which type of railcar may carry grain, calcium carbide and cement?
p. 82

A.) Pneumatically unloaded hopper car
B.) Uncovered hopper car
*C.) Covered hopper car
D.) Boxed hopper car

97. Where is the capacity stencil placed on the railcar in gallons (and sometimes liters)?
p. 131

A.) On the sides of the car under the car's initials and number
B.) On all sides under the car's initials and number
*C.) On both ends under the car's initials and number
D.) On the top of the car under the initials and number

98. Below what temperature is the flash point of a pesticide that needs to be labeled EXTREMELY FLAMMABLE?
p. 141

*A.) 80 degrees Fahrenheit (27 degrees Celsius)
B.) 60 degrees Fahrenheit (20 degrees Celsius)
C.) 90 degrees Fahrenheit (31 degrees Celsius)
D.) 70 degrees Fahrenheit (24 degrees Celsius)

99. What number will the seven-digit Standard Transportation Commodity Code number start with if the material is a hazardous waste?
p. 145

A.) 47
B.) 49
C.) 46
*D.) 48

100. Where will the first responder see the markings on the international intermodal container when facing it from the sides or end?
p. 132

A.) Bottom side
B.) Left-hand side
C.) Top side
*D.) Right-hand side