

Haz – Mat Tech. Study Guide

1. Which of the following statements best describes the standards set by OSHA?
A. OSHA standards apply to all workplaces
2. Which of the following statements best describes the regulations set by the EPA?
A. EPA regulations apply primarily to hazardous wastes
3. Which of the following organizations issues mandatory standards?
A. OSHA
4. The OSHA standard that protects workers in hazardous waste operations and emergency response is?
A. 29 CFR 1910.120
5. OSHA's Hazard Communication standard is:
A. A worker right-to-know law
6. Which of the following organizations issues hazard classes & divisions?
A. DOT
7. UN identification numbers indicate that a chemical may be shipped:
A. Internationally
8. Hazardous materials that must always be placarded, regardless of quantity, are:
A. Table 1 materials
9. Title 49 in the Code of Federal Regulations includes all:
A. DOT Regulations
10. The Superfund Amendment and Reauthorization Act is administered by:
A. EPA
11. How can DOT subsidiary placards be distinguished from primary placards?
A. Subsidiary placards do not carry hazard class or UN numbers
12. Bulk containers for liquids hold a maximum capacity of more than:
A. 118.9 gallons
13. An "MC 331" is a:
A. Pressure cargo tank
14. Non-pressure cargo tanks have:
A. Elliptical cross –sections and flat heads
15. Caustic Soda is frequently transported in:
A. Covered hopper cars
16. Non-pressure cargo tanks primarily carry:
A. Petroleum products
17. Which of the following is not true regarding shipping papers:
A. DOT requires that MSDSs accompany shipping papers
18. Non-pressure tank containers transport liquid & solid materials at pressures up to:
A. 100 psig
19. Tube trailers carry:
A. Pressurized gases
20. Which of the following best describes the most common type of tank container?
A. Single compartment, stainless steel tank in metal frame

21. Medical surveillance for emergency responders is part of which federal regulation?
 - A. 29 CFR 1910.120
22. The primary route of chemical exposure for fire fighters is:
 - A. Inhalation
23. Secondary contamination refers to:
 - A. Contamination from someone who has already been contaminated
24. Which of the following statements is *not* true of the skin?
 - A. Water-soluble substances are more easily absorbed by the skin
25. Which of the following items will provide minimum shielding from gamma radiation?
 - A. Several inches of lead
26. Under federal regulations, medical surveillance is *required* for:
 - A. Members of hazardous materials teams only
27. Biological monitoring measures:
 - A. The amount of an agent in your body
28. Simple asphyxiants displace oxygen in the air. Chemical asphyxiants:
 - A. Prevent the body from using inhaled oxygen
29. Etiologic means that an agent is:
 - A. Infectious
30. Which of the following organs is considered the primary “transfer point” for chemicals in the body?
 - A. The lungs
31. Which of the following statements is true regarding the hazard identification phase of pre-incident planning?
 - A. Transportation routes as well as fixed sites should be identified
32. What influence does topography have on the spread of a poisonous gas that is heavier than air?
 - A. It may either increase or prevent the spread of the gas
33. Which of the following is not true regarding weather conditions?
 - A. Cold temperatures have little effect because of physical demands in fire fighting
34. The hazard identification phase of pre-incident planning primarily involves:
 - A. Gathering information
35. Facilities that use only very small quantities of hazardous materials:
 - A. May not need to follow government reporting procedures
36. What is the next step in a pre-incident plan once you have collected all pertinent information?
 - A. Develop a comprehensive plan of action
37. If after preplanning a facility, you find you would not have sufficient resources to respond to an incident, your department should:
 - A. Take preventive measures
38. Generic pre-incident plans can be developed for:
 - A. Each pre-incident plan must be site –specific
39. Which of the following statements is not true of pre-incident planning?
 - A. A site visit may not be necessary if previous pre-incident plans are available
40. The right response to an incident is to:
 - A. Work within limitations of resources & training

41. Air is assigned a vapor density of:
A. 1
42. If a material is "water miscible", it is:
A. Infinitely soluble in water
43. Substances with high vapor pressures are:
A. More likely to evaporate
44. The rate of a chemical reaction can usually be increased by:
A. Increasing temperature, concentration, and pressure
45. Vapors and gases with molecular weights greater than 29 tend to:
A. Sink in air
46. Although specific gravity has no unit of measure, it does have a value relative to:
A. The weight of water
47. "Ignition temperature" refers to:
A. The temperature at which a material burns without a flame
48. A "pyrophoric" material describes a material that spontaneously ignites in air at or below:
A. 130 F
49. All gases have vapor pressure higher than:
A. 760 mm Hg
50. A chemical's "explosive limit" depends on its:
A. Concentration
51. Which of the following is the best definition of response time as it applies to detection devices?
A. The period between beginning measurement & obtaining a reading
52. Detector tubes are used to:
A. Measure the concentration of known gases, vapors, & unknown hydrocarbons
53. Alpha & beta radiation survey meters usually display readings in:
A. Counts per minute
54. On a combustible gas indicator with a reading in % LEL, the reading indicates 0-100% of:
A. The lower explosive limit
55. The most common calibration gases for combustible gas indicators are:
A. Methane, pentane
56. Which of the following is true of direct read-out instruments?
A. Direct read-out instruments provide measurements in real time
57. Which of the following instruments should you use in a flammable atmosphere?
A. Instruments marked "intrinsically safe" or "UL or FM"
58. Which of the following is the best definition of relative response as it applies to detection devices?
A. The instrument's reading compared to the calibration gas
59. If you are monitoring a gas with an LEL of 2% and your combustible gas indicator reads 50% LEL, what is the actual percentage of gas in the atmosphere?
A. 1%
60. An atmosphere is assumed to be oxygen-enriched if concentrations of oxygen are greater than:
A. 23.5%
61. Vapor-protective clothing for hazardous chemical emergency response is described in:
A. NFPA 1991

62. Chemical protective clothing is specifically designed to:
A. Prevent or limit skin exposure
63. The process by which a chemical moves through a material by molecular means is called:
A. Permeation
64. Which type of respirator should be worn in emergency response?
A. Positive pressure self contained breathing apparatus
65. Which of the following organizations assigns protection factors to respirators?
A. NIOSH
66. The longest approved air line for supplied air respirators is:
A. 300 feet
67. Support function garments should never be used for:
A. Emergency response
68. Liquid splash-protective clothing for hazardous chemical emergency response is described in:
A. NFPA 1992
69. Break through time refers to the time it takes for a chemical to:
A. Permeate protective clothing
70. Which type of resistance data is most valuable when using vapor-protective clothing?
A. Permeation
71. When must a decontamination area be set up?
A. Before personnel enter the Hot Zone
72. In emergency decontamination, which of the following is a primary concern?
A. Prevent severe injury.
73. If contaminants are corrosive, skin and mucous membranes must be flushed with:
A. Large amounts of water
74. Non-soluble contaminants should be removed from the skin with:
A. Liquid soap & water
75. Although other factors are involved, protective clothing is more likely to be permeated if:
A. The chemical is highly concentrated
76. "Deactivation" is the use of cleaning agents, neutralizers, or disinfectants for decontamination and is generally used for:
A. Organic compounds
77. In the decontamination process for liquid splash-protective garments, the SCBA face piece is removed:
A. After the splash suit is removed
78. How should you decontaminate a contaminated entry team member who experience heat stress in the Hot Zone?
A. Perform an emergency decontamination, then remove the clothing
79. Exposure to which type of chemical automatically prohibits the reuse of PPE?
A. Carcinogens
80. PPE contamination levels can only be determined by:
A. Destructive testing
81. Most 55-gallon drums have openings in the top fitted with plugs & caps. These opening are called:
A. Bungs

82. The best type of control technique for trapping solid materials floating on running water is:
A. None of the above
83. Oxygen gas would most likely be transported in which type of tank car?
A. High pressure tube car
84. Which of the following is usually built to contain releases on land?
A. Dikes
85. Which of the following statements is true of over packing?
A. Over pack drums must be marked
86. Which of the following control techniques are fire fighters usually responsible for?
A. None of the above
87. Which of the following control techniques involves releasing gas vapors into the atmosphere to reduce tank pressure?
A. Venting
88. Which of the following items is often used as an adsorbent?
A. Clay
89. Cargo tanks can be constructed from any of the following materials. Which one is softest & will puncture most easily?
A. Aluminum
90. Which type of tank car is the most common?
A. Non-pressure tank cars
91. An incident management system (I.M.S.) should be established when:
A. The first responding unit arrives
92. Which of the following function is *not* a command staff position?
A. Logistic
93. In an I.M.S., which of the following statements best describe the function of the Operations function?
A. Operation is responsible for management of tactical operations to stabilize & control the incident
94. A rest & rehabilitation unit at a large-scale incident would fall under the:
A. Logistics function
95. During a hazardous materials incident, transfers of command should take place:
A. As necessary
96. The Integrated Emergency Management System is implemented at large-scale incidents by the:
A. FEMA
97. In addition to Incident Command, what are the four primary divisions at a hazardous materials incident?
A. Operations, Planning, Logistic, Finance
98. Which of the following statements is true of the Incident Safety Officer?
A. The Incident Safety Officer can halt operations if unsafe practices occur
99. Coordination of communication at a hazardous materials incident is the responsibility of which division?
A. Logistic
100. Which organization mandates the use of Incident Command System at hazardous materials incidents?
A. OSHA
101. How should a seriously injured patient who has been contaminated with a toxic chemical be decontaminated?
A. The patient should undergo gross decontamination prior to medical treatment

102. How should burns from alkali corrosive agents be treated?
A. The chemical should be thoroughly flushed and the burn covered with a dry dressing
103. Which of these asphyxiants carries the highest risk of secondary contamination?
A. Cyanide
104. The acronym DUMBELS is associated with symptoms produced by exposure to which of the following insecticides?
A. Organophosphates
105. Victims of heat stroke experience:
A. Rapid, strong pulse and flushed, dry skin
106. Exposure to hydrogen fluoride can depletion of blood:
A. Calcium
107. Carboxyhemoglobin occurs when carbon monoxide inhibits:
A. The blood's ability to carry oxygen
108. Cyanide is easily absorbed through:
A. All three routes of exposure
109. How should hypothermic patients be treated?
A. The patient should be warmed slowly by placing heat packs close to the body
110. Which of the following chemicals can produce methemoglobinemia?
A. Nitrates
111. Non-soluble contaminants should be removed from the skin with:
A. Liquid soap & water
112. A DOT 407 is a:
A. Low pressure cargo tank
113. The Permissible Exposure Limit (PEL) is defined as:
A. The average airborne concentration of substance to which an adult can be exposed for 8-hour workday or 40 hour work week.
114. In emergency gross decontamination, the primary concern is to:
A. Prevent severe injury
115. When used as weapon of mass destruction, biological agents can be dispersed as:
A. All of the above (solids, liquids, & gases)
116. Breakthrough time refers to the time it takes for a chemical to:
A. Permeate protective clothing
117. Chlorine A kits are designed to help you handle leaks from:
A. Cylinders
118. The warfare agent SARIN is an example of a:
A. Nerve agent
119. The "persistence" of a product refers to:
A. The rate at which a product evaporates
120. When used as a terrorist weapon, which of the following chemicals is considered a blood agent?
A. Hydrogen cyanide
121. Cryogenic liquids are generally stored at maximum temperature of:
A. Minus 130 F

122. Diazinon & malathion are examples of which type of insecticide?
A. Organophosphates
123. A chlorine B kit is designed to handle leaks in:
A. Ton containers
124. An MC 338 cargo tank carries:
A. Cryogenic materials
125. Based on its molecular weight, which one of the following gases will tend to rise in air?
A. Acetylene (MW=26)
126. DOT hazard class 5 includes:
A. Oxidizers
127. When doffing chemical protective clothing, the last item removed should be:
A. SCBA
128. When a hazardous material contains multiple hazards, which types of labels should be used on the packaging?
A. Labels for the primary hazards & at least one subsidiary label for a secondary hazard
129. Hydrocarbons containing a molecular structure in the form of a ring are known as:
A. Aromatic hydrocarbons
130. Photoionization detectors (PIDs) are generally used to detect:
A. Organic vapors in low ppm ranges
131. Non-pressure Type I intermodal tank containers transport liquid & solid materials at pressures up to:
A. 100 psig
132. If you are exposed to a hazardous material, OSHA requires that your medical records be kept for how many years after you leave your job?
A. 30 years
133. Approximately how much of a displacing gas is needed to drop oxygen concentrations by 5%?
A. 1%
134. Inorganic peroxides act as both oxidizers and:
A. Corrosives
135. Compressed gases are defined by DOT as having an absolute pressure exceeding:
A. 40 psi at 70 F
136. Of the following heat-related stresses, which symptom indicates the most serious condition?
A. Flushed, dry skin
137. The types of weapon most commonly used by terrorists are:
A. Explosives
138. DOT hazards class 4 includes:
A. Flammable solids
139. How should you decontaminate a contaminated entry team member who experience heat stress in the hot zone?
A. Perform an emergency decon, then remove the clothing
140. Which type of respirator should be worn in emergency response?
A. Positive pressure SCBA
141. The first step in conducting pre-incident planning for a fixed site is:
A. Conducting a site visit

142. MC 306/ DOT 406 cargo tanks generally carry what type of products?
A. Fuels
143. In the decontamination process for liquid splash-protective garments, the SCBA face piece is removed:
A. After the splash suit is removed
144. Which of the following is not an example of a containment technique?
A. Diking
145. Which of the following must be placarded regardless of the amount being transported?
A. Table 1 materials
146. You must know the different type of cargo tankers & what they look like:
A. MC 306 / DOT 406 Non-pressure
B. MC 307 / DOT 407 Low-pressure
C. MC 312 / DOT 412 Corrosive
D. MC 331 Pressure
E. MC 338 Cryogenic
147. You must know the different type of railroad tank cars & what they look like:
A. Non-pressure
B. Pressure
C. Corrosive
D. Cryogenic
148. You must know the different types of fixed storage tanks & what they look like:
A. Flat roof
B. Dome roof
C. Floating flat roof
D. Floating dome roof
E. Cone roof
F. Cryogenic tank
149. A chemical with a pH less than 7 is alkaline; a chemical with a pH greater than 7 is acidic.
A. False
150. A product with a Class Division number of 5.2 at the bottom of the placard would be considered an:
A. Organic peroxide