Hazardous Materials - Properties and Effects

1. What does vapor pressure pertain to for the purpose of the fire fighter? p. 883

A.) Semi-solids
B.) Solids
C.) Vapors
*D.) Liquids

2. Where will particles that are greater than 7 microns in size become trapped in the respiratory tract? p. 892

*A.) Nose
B.) Bronchi
C.) Larynx
D.) Trachea

3. Which is the most toxic of the weapons-grade nerve agents? p. 888

A.) Tabun
B.) Sarin
C.) Soman
*D.) VX

4. What is the one major concern when an unconfirmed vapor cloud expands outward from the point of release? p. 883

*A.) The likelihood of a flammable mixture along the edge of the cloud
B.) The fire point is unknown
C.) The area that must be controlled to mitigate the hazards
D.) The flammability range of the material is widened with the available oxygen

5. Which of the following pH value would indicate a strong corrosive? p. 885

*A.) 2.5
B.) 5.5
C.) 4.5
D.) 3.5

6. At which point will sustained combustion occur? p. 882

A.) Flash point
B.) Ignition point
C.) Vapor point
*D.) Fire point

7. Under which concept will the material ignite without an external source of ignition? p. 882

A.) Fire point
B.) Flammable range
*C.) Ignition temperature
D.) Flash point

8. What is the temperature at which a liquid will continually give off vapors in sustained amounts? p. 881

A.) Expansion point
B.) Vapor point
C.) Flash point
*D.) Boiling point

9. Within what amount of time may redness and blistering appear after exposure to sulfur mustard? p. 889

A.) 15 to 30 hours
B.) 24 to 48 hours
C.) 1 to 5 hours
*D.) 2 to 24 hours

10. What is the expansion ratio of water? p. 881

A.) 2,000:1
*B.) 1,700:1
C.) 1,200:1
D.) 1,500:1

11. Which is considered the most important section of the ERG which provides basic response information for specific groups of chemicals? p. 894

A.) Yellow
B.) Green
*C.) Orange
D.) Blue

12. Which section of the ERG lists hazardous chemicals in alphabetical order? p. 894

A.) Green
B.) Orange
*C.) Blue
D.) Yellow

13. In which form must materials be to burn? p. 881

A.) Semi-solid
*B.) Vapor
C.) Liquid
D.) Solid

14. Which offers the greatest protection against inhalation hazards? p. 891

A.) Battery-operated air purifying respirators
*B.) Positive-pressure, open circuit SCBA
C.) Facemask with HEPA filter
D.) Full-face air purifying respirators

15. Which type of radiation is the most dangerous to humans in general terms? p. 886

A.) Bonding
B.) Non-ionizing
C.) Non-bonding
*D.) Ionizing

16. What predominantly does hydrofluoric acid bind with when absorbed? p. 892

A.) Magnesium
B.) Oxygen
C.) Vitamin C
*D.) Calcium

17. Which of the following are pure electromagnetic energy? p. 887

A.) Alpha particles
B.) Theta rays
C.) Beta particles
*D.) Gamma rays

18. Which of the following prevents the body from using oxygen? p. 892

A.) Nerve agents
B.) Irritants
*C.) Asphyxiants
D.) Convulsants

19. What has occurred when a chemical has been released and physically contacts people, the environment, animals, and tools? p. 888

A.) Alienation
B.) Elimination
C.) Infection
*D.) Contamination

20. What is the key point to understanding vapor pressure? p. 883

A.) Allowing a relief valve to function will eliminate any dangerous build-ups
B.) There must be an equilibrium within the container between the surface tension and the liquid
*C.) To exert any pressure the vapors released from the surface of the liquid must be contained
D.) No pressure can exist in a closed container

21. What ultimately determines the amount of damage done by radiation? p. 886

A.) Distance from the source
B.) Amount absorbed by the body
*C.) Amount of exposure time
D.) Strength of the source

22. What does OSHA define as a chemical that causes a substantial proportion of exposed people or animals to develop an allergic reaction in normal tissue after repeated exposures? p. 894

A.) Radifier
B.) Desensitizer
*C.) Sensitizer
D.) De-radifier

23. What is the main route of exposure for cyanide compounds? p. 889

A.) Injection
B.) Absorption
C.) Ingestion
*D.) Inhalation

24. As what can pH be thought to be the potential of? p. 885

*A.) Hydrogen
B.) Oxygen
C.) Carbon
D.) Halon

25. Which type of particles can be stopped by most solid objects and include X-rays? p. 887

*A.) Beta
B.) Theta
C.) Alpha
D.) Gamma

26. Which route of exposure is uncommon for most people, except fire fighters? p. 892

A.) Absorption
*B.) Ingestion
C.) Inhalation
D.) Injection

27. How long can sulfur mustard maintain in the environment? p. 889

A.) Hours
*B.) Days
C.) Weeks
D.) Months

28. What pH value is given to neutral chemicals? p. 885

A.) 3
*B.) 7
C.) 5
D.) 0

29. Which of the following will most fire fighters never encounter? p. 887

A.) Gamma rays
B.) Alpha particles
*C.) Neutrons
D.) Beta particles

30. At what temperature is vapor pressure usually shown? p. 884

A.) 72°F (22°C)
B.) 85°F (29°C)
C.) 57°F (14°C)
*D.) 68°F (20°C)

31. What does vapor pressure directly correlate to when a material is released from its container? p. 884

A.) Flash point
B.) Dilution rate
C.) Ignition temperature
*D.) Evaporation rate

32. What is the first step in understanding the hazard posed by any substance? p. 880

A.) Identifying the toxicity of the matter
B.) Identifying the specific gravity of the matter
C.) Identifying the boiling point of the matter
*D.) Identifying the state of the matter

33. What is the index value of air? p. 883

A.) 0
B.) -1
C.) 2
*D.) 1

34. Which causes lung and eye irritation? p. 886

*A.) Formaldehyde
B.) Sulfur dioxide
C.) Carbon monoxide
D.) Cyanide

35. Which of the following can cause pulmonary edema? p. 886

A.) Sulfur dioxide
B.) Carbon monoxide
*C.) Nitrous oxide
D.) Formaldehyde

36. Which type of particles are like dust particles? p. 887

A.) Theta
B.) Gamma
*C.) Alpha
D.) Beta

37. What odor are nerve agents in general reported to have? p. 888

A.) Metallic
B.) Sour
C.) Rotten
*D.) Fruity

38. Which defines the amount of vapor needed to cause ignition? p. 882

*A.) Lower flammability limit
B.) Fire point
C.) Flash point
D.) Upper flammability limit