

1. Chemical Hygiene Plans are required by _____.
 - a. Environmental Protection Agency (EPA)
 - b. US Department of Transportation (DOT)
 - c. Nuclear Regulatory Commission (NRC)
 - d. Occupational Safety and Health Administration (OSHA)

Answer: D

2. What is a chemical hygiene plan?
 - a. The procedure that describes safe work practices for chemicals.
 - b. A strategy for chemical PPE.
 - c. A program that protects workers from chemical hazards.
 - d. The policy that describes the hazards in a fume hood.

Answer: C

3. About a chemical hygiene plan, standard operating procedures provide what?
 - a. A restriction on how and where chemical are used in the laboratory.
 - b. A consistent approach to performing laboratory analysis
 - c. A limitation to the volume of chemicals allowed in a fume hood.
 - d. The rules and regulations regarding chemical exposure.

Answer: A

4. Hazards controls to reduce or limit exposure to chemicals include all the following methods, **EXCEPT?**
 - a. Engineering controls
 - b. Personal protective equipment (PPE)
 - c. Administrative controls
 - d. Chemical sensitivity training

Answer: D

5. In order to meet the requirements of a chemical hygiene plan, monitoring of chemical fume hoods includes _____.
 - a. current contamination levels
 - b. air flow rates
 - c. equipment loading
 - d. spill data

Answer: B

6. The person responsible for the implementation of the chemical hygiene plan is the _____.
- a. Chemical Hygiene Officer
 - b. Laboratory Manager
 - c. Laboratory Safety Officer
 - d. Industrial Hygienist

Answer: A

7. T or F – A chemical hygiene plan must provide special provisions for every chemical.
- a. True
 - b. False

Answer: B

8. Worker training specified by the chemical hygiene plan is required to ensure _____.
- a. chemicals are used as prescribed
 - b. co-workers are protected from spills
 - c. safety of personnel from chemicals
 - d. exposure limits are not exceeded

Answer: C

9. Chemical hygiene training includes all of the following, **EXCEPT**?
- a. Hazards associated with equipment malfunction
 - b. Health hazards of chemicals in the work area
 - c. Physical hazards of chemicals in the work area
 - d. Details of the chemical hygiene plan

Answer: A

10. T or F – Medical monitoring of personnel is required whenever an employee develops signs or symptoms of exposure.
- a. T
 - b. F

Answer: A

11. The Hazard Communication Standard is issued by which government agency.
- a. Environmental Protection Agency (EPA)
 - b. Occupational Safety and Health Administration (OSHA)
 - c. US Department of Energy (DOE)
 - d. US Department of Transportation (DOT)

Answer: B

12. The Hazard Communication Standard requires which of the following communication methods?
- a. Procedures and Polices
 - b. Signs and Postings
 - c. Container Labeling
 - d. Certified Training

Answer: C

13. Laboratory chemical labels allow workers to _____.
- a. safely mix chemicals
 - b. properly store chemicals
 - c. immediately identify hazards
 - d. ensure the correct chemical is in the container

Answer: C

14. The least effective method for hazard control is _____.
- a. personal protective equipment
 - b. administrative controls
 - c. substitution
 - d. engineering controls

Answer: A

15. Chemical fume hoods are an example of which type of hazard control?
- a. personal protective equipment
 - b. administrative controls
 - c. substitution
 - d. engineering controls

Answer: D

16. Safety Data Sheets are created by the _____.
- a. procedure author
 - b. chemical manufacturer
 - c. chemical hygiene officer
 - d. industrial hygienist

Answer: B

17. T or F – Safety Data Sheets should be used in place of local policies and procedures, if possible.
- a. True
 - b. False

Answer: B

18. Chemical container labeling should contain which piece of information?

- a. Preparer
- b. Ingredient List
- c. Expiration Date
- d. Common Uses

Answer: C

19. _____ exposure refers to chemical effects/damage that appear immediately.

- a. fast-acting
- b. instant
- c. hazardous
- d. acute

Answer: D

20. A “Hazard” on a label is typically _____.

- a. one word
- b. a statement
- c. written in more than one language
- d. identified by a picture

Answer: A

21. T or F – Chronic exposure is usually treatable.

- a. T
- b. F

Answer: B

22. Which of the following is an example of an acute effect from chemical exposure?

- a. Loss of smell
- b. Brain damage
- c. Sudden collapse
- d. Cancer

Answer: C

23. Which of the following routes of entry is the most common?

- a. Absorption (skin contact)
- b. Inhalation (breathing)
- c. Ingestion (eating)
- d. Injection

Answer: B

24. The most effective way to reduce exposure to hazardous chemicals is by _____.

- a. personal protective equipment
- b. engineered controls
- c. substitution
- d. administrative controls

Answer: C

25. Ingestion of chemicals can be best prevented by _____.

- a. washing hands
- b. wearing PPE
- c. cleaning up spills
- d. storing food outside lab areas

Answer: A

26. Corrosive hazards _____.

- a. are dangerous to living organisms
- b. are also irritants
- c. create allergic reactions
- d. destroy exposed tissue

Answer: D

27. Toxic substances _____.

- a. are dangerous to living organisms
- b. are also irritants
- c. create allergic reactions
- d. destroy exposed tissue

Answer: A

28. Ergonomic hazards include all the following, except _____?

- a. awkward positions
- b. computer workstations
- c. repetitive motions
- d. stairwells

Answer: D

29. Cryogenic materials are used to _____.

- a. produce very cold temperatures
- b. enhance radioactivity
- c. promote burning
- d. improve reaction time of chemicals

Answer: A

30. Electrical shock will most likely be caused by which of the following?

- a. electrical maintenance
- b. instrument repair
- c. operating breakers
- d. damaged receptacles

Answer: D

31. Cryogenic materials can cause _____.

- a. blisters
- b. a fire hazard
- c. rapid skin degradation
- d. asphyxiation

Answer: D

32. A fume hood sash should be positioned _____.

- a. the same for all work
- b. as low as possible
- c. in the most comfortable location
- d. where the industrial hygienist requires it

Answer: B

33. Laboratory pipets are subject to all of the following when small amounts are used EXCEPT

_____.

- a. humidity
- b. temperature
- c. barometric pressure
- d. pipet angle

Answer: C

34. Hotplates and stirrers can create hazards in the laboratory most likely due to _____.
- a. very hot surfaces
 - b. electrical shock
 - c. high stirring rates causing splashes
 - d. failure of auto-shutoff feature

Answer: A

35. The motive force for a laboratory stirrer is _____.
- a. an electromagnetic motor
 - b. an electric motor
 - c. an air-powered motor
 - d. none of the above

Answer: B

36. Muffle furnaces create unique hazards because of which of the following?
- a. Interlock devices do not prevent door from opening
 - b. Additional gloves are required, limiting dexterity
 - c. Tongs require practice
 - d. All the above

Answer: D

37. Electrically heated ovens are commonly used for _____.
- a. evaporating water
 - b. warming chemicals before use
 - c. maintaining a constant temperature in the laboratory
 - d. evaporating toxic chemical waste

Answer: A

38. Microwave ovens are commonly used for _____.
- a. heating liquids above their boiling point
 - b. evaporating water
 - c. irradiating metals
 - d. dissolving materials

Answer: D

39. T or F – Laboratory balances can be affected by changing temperatures.
- a. T
 - b. F

Answer: A

40. _____ balances are the most sensitive.

- a. Top-loading
- b. Air-tight
- c. Analytical
- d. Temperature controlled

Answer: C

41. Which of the following can have a substantial effect on balance measurements?

- a. container size
- b. static electricity
- c. material density
- d. balance manufacturer

Answer: C

42. The most accurate device for liquid measurements is a _____.

- a. beaker
- b. graduated cylinder
- c. volumetric flask
- d. buret

Answer: C

43. Which type of measurement device is best where less accuracy is acceptable?

- a. Beaker
- b. Graduated Cylinder
- c. Volumetric Flask
- d. Buret

Answer: B

44. Beakers are best when _____ is required.

- a. Heating
- b. transporting
- c. reacting
- d. any of the above

Answer: D

45. Proper reading of a meniscus is required for which of the following volumetric devices?

- a. Volumetric Flasks
- b. Beakers
- c. Erlenmeyer Flasks
- d. Auto-displacement Pipets

Answer: A

46. Centrifuges rely on different _____ materials.

- a. temperature
- b. density
- c. mass
- d. phase

Answer: B

47. Laboratory centrifuges can be dangerous due to _____.

- a. electrical shock
- b. unbalanced loads
- c. over-speed conditions
- d. brake failure

Answer: B