Chemistry Lab Safety Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- **Practice answering questions under realistic conditions,**
- **Improve accuracy and speed,**
- **Review explanations to strengthen weak areas, and**
- **Approach the exam with greater confidence.**

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here’s how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don’t just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There’s no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

1. Where should you keep a fire extinguisher in the lab and how often should it be inspected?

A. On the ceiling; inspected weekly.

B. Mounted on a wall or in an accessible cabinet; visually inspected monthly; serviced annually.

C. In a drawer; never inspected.

D. In a high shelf; inspected yearly.

2. Why is it important to change gloves after contact with hazardous substances?

A. To save money

B. To improve grip

C. To prevent cross-contamination and skin exposure

D. To comply with labeling procedures

3. Weigh boats are used when weighing substances. After weighing, what should you do with them?

A. Reuse weigh boats for multiple trials

B. Place weigh boats on the balance

C. Use weigh boats and then throw weigh boats in the trash

D. Throw weigh boats in the trash

4. What is acetone used for?

A. Lubricating seals

B. Cleaning glassware and benchtops (do not use on goggles)

C. Disinfecting countertops

D. Removing stickers from glassware

5. Which color does not have a numeric value on the NFPA scale?

A. Blue, health

B. Red, flammability

C. Yellow, reactivity

D. White, special hazards

6. Which action is not recommended when clothing is on fire?

A. Stop, drop, and roll.

B. Use a fire extinguisher to put out the flames.

C. Inform TA and use a fire blanket.

D. Wrap burned areas with wet cloths and cover with a fire blanket.

7. Where are the first aid kits located in the facility?

A. In every lab and stockroom.

B. In the safety office only.

C. Outside the building.

D. In the main hallway closet.

8. What is the proper method for cleaning up broken glass?

A. Wash the area with water and clear soap.

B. Pick up by hand wearing gloves.

C. Do not pick up by hand; use a broom and dustpan or tongs; place broken glass in a rigid, labeled container; wash the area.

D. Dispose of glass in regular trash.

9. Which class of fire extinguisher is typically used for solvent fires in the chemistry lab?

A. Foam extinguisher

B. ABC dry chemical extinguishers

C. Wet chemical extinguisher

D. Water extinguisher

10. Which PPE item is specifically used to protect the hands from corrosive acids?

A. Safety glasses

B. Acid-resistant gloves

C. Lab coat

D. Closed-toe shoes

Answers

1. B
2. C
3. C
4. B
5. D
6. B
7. A
8. C
9. B
10. B

Explanations

1. Where should you keep a fire extinguisher in the lab and how often should it be inspected?

A. On the ceiling; inspected weekly.

B. Mounted on a wall or in an accessible cabinet; visually inspected monthly; serviced annually.

C. In a drawer; never inspected.

D. In a high shelf; inspected yearly.

Keeping fire extinguishers accessible and maintained is essential in any lab. The best approach places the extinguisher on a wall or in an accessible cabinet so you can grab it quickly and unobstructed in an emergency, rather than up on a ceiling, in a drawer, or on a high shelf where it's hard to reach or easy to forget. Regular checks are about readiness. Visually inspecting each month means confirming the pressure gauge is in the correct range, the safety pin and tamper seal are intact, the nozzle and hose aren't cracked or blocked, and the cylinder shows no corrosion or dents. The mounting hardware should be secure and the area around the extinguisher clear so you can grab it without delay. If anything looks off, it should be tagged and taken out of ordinary service until it's repaired. Annual service by a qualified technician goes deeper. It includes a thorough internal inspection, ensuring the extinguishing agent is intact and properly charged, testing safety features, and performing required maintenance or hydrostatic tests as recommended for the extinguisher type. Documentation is updated to reflect the service. Other placements compromise immediacy and certainty of operation. A ceiling-mounted extinguisher is harder to reach and could be blocked or damaged; a drawer or a high shelf makes access slow and uncertain; relying on yearly inspection alone doesn't provide ongoing confirmation of readiness.

2. Why is it important to change gloves after contact with hazardous substances?

A. To save money

B. To improve grip

C. To prevent cross-contamination and skin exposure

D. To comply with labeling procedures

Changing gloves after contact with hazardous substances is essential because gloves serve as the primary barrier that protects your skin from exposure and helps prevent the spread of contamination. When you touch a hazardous material, it can stick to the glove surface or begin to permeate the material. If you keep wearing the same gloves, contaminants can transfer to your skin, to other surfaces, or to clean equipment and then to other people. Switching to a fresh pair and performing hand hygiene before continuing reduces the risk of skin absorption and cross-contamination, keeping you and the workspace safer. It's also important to replace gloves if they are torn, punctured, or degraded, since damaged gloves no longer provide reliable protection. The other options don't address protection from exposure or the transfer of contaminants, which is the core safety concern here.

3. Weigh boats are used when weighing substances. After weighing, what should you do with them?

A. Reuse weigh boats for multiple trials

B. Place weigh boats on the balance

C. Use weigh boats and then throw weigh boats in the trash

D. Throw weigh boats in the trash

Weigh boats are designed for single use to prevent cross-contamination and keep measurements accurate. After weighing, residues and contamination remain on the boat, so reusing it could transfer material to a new sample and skew results. Placing the used boat back on the balance would contaminate the balance and future measurements. The right action is to discard the used weigh boat after weighing. In many labs that means throwing it in the trash, though hazardous materials would follow your lab's specific waste disposal rules. This practice keeps future trials clean and trustworthy.

4. What is acetone used for?

A. Lubricating seals

B. Cleaning glassware and benchtops (do not use on goggles)

C. Disinfecting countertops

D. Removing stickers from glassware

Acetone is a fast-evaporating solvent that dissolves many organic residues, so it's ideal for cleaning glassware and benchtops between experiments. Its rapid evaporation helps surfaces dry quickly, reducing downtime before the next step. It is not a disinfectant, so cleaning with acetone does not substitute for agents that kill microbes on countertops. Avoid using acetone on goggles because it can damage certain plastics and coatings and its fumes can irritate the eyes. It can remove sticker residue from glassware, but that's a secondary effect and you'd still want to rinse and dry the glassware thoroughly before reuse.

5. Which color does not have a numeric value on the NFPA scale?

A. Blue, health

B. Red, flammability

C. Yellow, reactivity

D. White, special hazards

NFPA 704 diamonds use colored sections to show different kinds of hazard. The blue, red, and yellow sections each carry a number from 0 to 4 that represents how severe the health, flammability, and reactivity hazards are. The white section, though, is set aside for special hazards and does not use a numeric rating. Instead, it uses letters or symbols (like OX for oxidizers, W with a line through it for water reactivity, or indicators for acids, bases, or when a material has a specific hazard that isn't captured by the numbers). Because there's no 0–4 scale in the white section, it's the color without a numeric value on the NFPA scale.

6. Which action is not recommended when clothing is on fire?

A. Stop, drop, and roll.

B. Use a fire extinguisher to put out the flames.

C. Inform TA and use a fire blanket.

D. Wrap burned areas with wet cloths and cover with a fire blanket.

When clothing is on fire, the priority is to stop the flames quickly by removing heat and depriving them of oxygen. The quickest way to do this is to stop, drop, and roll, which smothers the flames and cools the burning fabric. After the flames are contained, alert someone for help and use a fire blanket to further smother the fire and protect the person's skin. Using a fire extinguisher to put out flames on a person is not advised because extinguishers are designed for environment fires, not for someone who is burning. A blast or spray can unintentionally spread flames, injure eyes, or irritate skin, and it's hard to target effectively on a person. Wrapping burned areas with wet cloths is also not recommended because water on a burning person can lead to steam burns and heat transfer back into the skin, potentially causing more damage; a dry fire blanket is the safer, more effective smothering option.

7. Where are the first aid kits located in the facility?

A. In every lab and stockroom.

B. In the safety office only.

C. Outside the building.

D. In the main hallway closet.

Having first aid kits in every lab and stockroom ensures immediate access wherever an injury occurs. In a lab, incidents can happen quickly and require prompt attention, such as minor cuts, chemical splashes, or burns. If kits were only in the safety office, outside the building, or in a single hallway closet, there's a real risk of delay while someone travels to retrieve supplies, which can worsen the situation. Placing kits in each lab and stockroom standardizes access, reduces the time to begin first aid, and supports safe, effective response across the facility. Regular checks keep contents complete and up to date, so responders are always ready. This setup is the most practical and safety-focused choice to ensure help is available right where it's needed.

8. What is the proper method for cleaning up broken glass?

A. Wash the area with water and clear soap.

B. Pick up by hand wearing gloves.

C. Do not pick up by hand; use a broom and dustpan or tongs; place broken glass in a rigid, labeled container; wash the area.

D. Dispose of glass in regular trash.

Safely cleaning up broken glass centers on preventing injury and containing all fragments. Since glass can have tiny, hidden shards, the cleanup should be mechanical rather than by hand. Use a broom and dustpan or tongs to gather all pieces, then place the broken glass in a rigid, labeled container so it won't tear bags or cause confusion about the hazard. After collecting the pieces, wash the area to remove any remaining slivers and ensure the surface is clean. Finally, dispose of the container and its contents according to your lab's waste procedures (not in regular trash) to protect you and others from injury.

9. Which class of fire extinguisher is typically used for solvent fires in the chemistry lab?

A. Foam extinguisher

B. ABC dry chemical extinguishers

C. Wet chemical extinguisher

D. Water extinguisher

Solvent fires involve flammable liquids, so the extinguisher chosen must effectively handle liquids and be safe around any electrical equipment commonly found in a chemistry lab. A multipurpose dry chemical extinguisher is particularly well-suited because the dry chemical powder blankets the liquid, coating the surface and interrupting the chemical reactions occurring at the flame. This stops the fuel–air and radical-chain reactions that keep the fire going, making it effective on a wide range of hazards, including flammable liquids and electrical equipment. Water extinguishers are not appropriate for solvent fires because water can spread the flammable liquid, potentially spreading the fire or causing splashes. Foam extinguishers can handle some liquid fires but may leave residues that complicate experiments and cleanup, and they aren't as versatile for the variety of hazards that can be present in a lab. Wet chemical extinguishers are designed for cooking fats and oils and aren't suitable for typical laboratory solvents. Therefore, a dry chemical extinguisher that covers flammable liquids (and other common lab hazards) is the best choice for solvent fires in the chemistry lab.

10. Which PPE item is specifically used to protect the hands from corrosive acids?

A. Safety glasses

B. Acid-resistant gloves

C. Lab coat

D. Closed-toe shoes

When handling corrosive acids, protecting the hands is best achieved with acid-resistant gloves. These gloves create a barrier between the skin and the chemical, preventing burns and absorption by the skin. They're made from materials that resist acids, such as nitrile, neoprene, or butyl rubber, and you choose the glove type based on the specific acid you're using (checking chemical compatibility). It's important to ensure the gloves fit properly, are free of tears, and are replaced if damaged. Other PPE like safety glasses protect the eyes, a lab coat protects clothing and skin on the body, and closed-toe shoes protect the feet, but they don't shield the hands from corrosive liquids, so the gloves are the key item for hand protection.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

https://chemlabsafety.examzify.com

We wish you the very best on your exam journey. You've got this!