

CATEGORY 10C OHIO FUMIGATION PRACTICE TEST (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

**VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE**

<https://cat10cohiofumigation.examzify.com>



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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

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- 1. The area of a rectangle is calculated using which formula?**
 - A. $l \times w$
 - B. $w \times h$
 - C. $l + w$
 - D. $l \times l$
- 2. What must be done with residue after using magnesium phosphide?**
 - A. It must be properly deactivated
 - B. It can be dissolved in water
 - C. It can be discarded with regular trash
 - D. It must be burned
- 3. What happens when temperatures are below 60 F?**
 - A. Increases volatility and diffusion.
 - B. Increases sorption and reduces volatility.
 - C. No change in sorption or volatility.
 - D. Decreases sorption and reduces diffusion.
- 4. Which is a function of the exoskeleton?**
 - A. Prevents moisture loss
 - B. Stores fat reserves
 - C. Produces enzymes
 - D. Enables photosynthesis
- 5. In stored grain fumigation, which statements describe factors influencing gas loss?**
 - A. Winds cause pressure gradients and rapid loss of fumigant concentrations at the grain surface and downwind side.
 - B. Thermal heat from the sun causes head space air expansion and nighttime cooling causes a pumping of fumigant from the bin.
 - C. The grain surface has the greatest gas loss.
 - D. All of the above.

6. Vapor Pressure is defined as:

- A. The atmospheric concentration of the gas in the air.
- B. The tendency of a chemical to evaporate and become a gas or vapor.
- C. The weight of the atoms that form the fumigant molecule.
- D. The temperature at which the liquid stage boils.

7. Rickettsialpox is described as which of the following?

- A. A chicken pox–like illness transmitted to humans by a house mouse mite
- B. Transmitted by fleas
- C. A bacterial skin infection from rodent bites
- D. A viral respiratory illness from rodent urine

8. What effect does dockage have in stored grain fumigation?

- A. Dockage pockets trap fumigant and prevent any distribution.
- B. Dockage has no effect on fumigation.
- C. Dockage pockets create a path of least resistance around pockets, causing uneven distribution.
- D. Dockage pockets improve fumigant penetration.

9. Sulfuryl fluoride gas can enter which types of enclosures?

- A. Freezers
- B. Open air
- C. Water tanks
- D. Forests

10. Which insect has round/irregular pits on its elytra?

- A. Rice weevil
- B. Granary weevil
- C. Lesser grain borer
- D. Angoumois grain moth

Answers

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

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Explanations

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1. The area of a rectangle is calculated using which formula?

- A. $l \times w$**
- B. $w \times h$
- C. $l + w$
- D. $l \times l$

The area of a rectangle is found by multiplying its length by its width. This works because area is the amount of space inside the shape, which can be thought of as filling the rectangle with 1-by-1 unit squares: you get length rows of squares, and each row has width squares, so the total is length times width, in square units. The order doesn't matter, since $l \times w = w \times l$. Using length squared ($l \times l$) only describes a square with equal sides, not a general rectangle. Adding the sides ($l + w$) isn't area at all; it's a linear measure, not the two-dimensional space inside the shape.

2. What must be done with residue after using magnesium phosphide?

- A. It must be properly deactivated**
- B. It can be dissolved in water
- C. It can be discarded with regular trash
- D. It must be burned

Residue from magnesium phosphide stays hazardous because it can react with moisture to release phosphine, a highly toxic gas. The only safe approach is to properly deactivate the residue, which means applying the deactivation procedure specified by the product label or safety guidelines. This hydrolyzes the remaining material so it no longer generates phosphine, after which the residue is handled and disposed of as hazardous waste according to regulations. Dismissing the residue by dissolving it in water, burning it, or throwing it in regular trash would not safely neutralize the risk and could release toxic gas or create fire hazards.

3. What happens when temperatures are below 60 F?

- A. Increases volatility and diffusion.
- B. Increases sorption and reduces volatility.**
- C. No change in sorption or volatility.
- D. Decreases sorption and reduces diffusion.

Temperature affects how fumigants move: their volatility (how easily they form gas) and their sorption (how much they stick to surfaces). When temperatures are below 60 F, the fumigant's vapor pressure drops, so it is less likely to stay in the gas phase and more likely to be sorbed onto substrates like soil, wood, or walls. This combination—more sorption and less volatility—means the gas doesn't diffuse as readily through cracks or pores. That's why this option is the best: cooler temperatures increase sorption and reduce volatility. The other ideas would imply more movement or no change, which doesn't match how cooling slows volatilization and enhances sticking to surfaces.

4. Which is a function of the exoskeleton?

- A. Prevents moisture loss
- B. Stores fat reserves
- C. Produces enzymes
- D. Enables photosynthesis

The key idea is that an exoskeleton acts as a tough outer covering that protects the body while helping conserve water. In arthropods, the exoskeleton is made of materials like chitin with a waxy surface that forms a barrier to evaporation, reducing water loss and helping the animal stay hydrated in dry conditions. This moisture-retaining function is a primary role of the exoskeleton, and it also serves to support the body and anchor muscles for movement. Fat reserves, enzymes, and photosynthesis come from internal tissues or other organisms' processes, not from the exoskeleton: fat storage is inside the body, enzymes are produced by glands and digestive tissues, and photosynthesis is done by plants or photosynthetic microbes.

5. In stored grain fumigation, which statements describe factors influencing gas loss?

- A. Winds cause pressure gradients and rapid loss of fumigant concentrations at the grain surface and downwind side.
- B. Thermal heat from the sun causes head space air expansion and nighttime cooling causes a pumping of fumigant from the bin.
- C. The grain surface has the greatest gas loss.
- D. All of the above.

Gas loss during stored grain fumigation is driven by environmental and physical factors that move fumigant from the grain mass into the surrounding air. Wind creates pressure gradients around the grain, especially at the surface and on the downwind side, which accelerates fumigant leakage and lowers concentrations near the grain. Temperature changes from sunlight heat expand the headspace air and raise fumigant vapor pressure, promoting loss; when nighttime cooling occurs, that cooling can induce a pumping action that helps move fumigant out of the bin. The grain surface provides the largest interface for gas exchange, so its extent directly affects how much fumigant can escape. Taken together, these mechanisms all contribute to gas loss, so all of the above factors describe influences on fumigation loss.

6. Vapor Pressure is defined as:

- A. The atmospheric concentration of the gas in the air.
- B. The tendency of a chemical to evaporate and become a gas or vapor.
- C. The weight of the atoms that form the fumigant molecule.
- D. The temperature at which the liquid stage boils.

Vapor pressure is the pressure exerted by the vapor that is in equilibrium with its liquid at a given temperature. It measures how readily a substance tends to evaporate and become a gas; a higher vapor pressure means the liquid releases more molecules into the air, i.e., it is more volatile. This concept matters in fumigation because a fumigant with higher vapor pressure will produce more vapor in the space at the same temperature, influencing how quickly and widely it distributes. The other ideas describe different properties. Atmospheric concentration is about how much gas is present in air, not the pressure exerted by the vapor itself. Molecular weight relates to mass, not volatility. The boiling point is the temperature at which the liquid's vapor pressure equals the surrounding atmospheric pressure, not the definition of vapor pressure itself.

7. Rickettsialpox is described as which of the following?

- A. A chicken pox–like illness transmitted to humans by a house mouse mite
- B. Transmitted by fleas
- C. A bacterial skin infection from rodent bites**
- D. A viral respiratory illness from rodent urine

Rickettsialpox is a bacterial infection caused by Rickettsia akari that humans acquire through the bite of an infected house mouse mite. The hallmark is a chickenpox-like vesicular eruption at the bite site, often accompanied by fever and malaise, with a generalized rash that can resemble varicella. The key idea is that this illness is transmitted by a mite that lives with mice, not by fleas or by direct rodent bites, and it is a bacterial, not viral, disease. It's not a viral respiratory illness nor a skin infection caused by a rodent bite itself, but a mite-borne rickettsial infection presenting with a vesicular, pox-like rash.

8. What effect does dockage have in stored grain fumigation?

- A. Dockage pockets trap fumigant and prevent any distribution.
- B. Dockage has no effect on fumigation.
- C. Dockage pockets create a path of least resistance around pockets, causing uneven distribution.**
- D. Dockage pockets improve fumigant penetration.

Gas in stored-grain fumigation moves through the grain mass along the easiest route. Dockage pockets create spaces that redirect airflow, so gas finds a path of least resistance around those pockets. This leads to uneven fumigant distribution—areas near the pockets may receive too little exposure while other paths carry more gas—reducing overall treatment effectiveness and potentially leaving pests alive in untreated zones. That's why the correct understanding is that dockage pockets create a path of least resistance around pockets, causing uneven distribution.

9. Sulfuryl fluoride gas can enter which types of enclosures?

- A. Freezers**
- B. Open air
- C. Water tanks
- D. Forests

Fumigants like sulfuryl fluoride must be used in enclosed spaces where the gas can accumulate and remain long enough to kill pests. Because sulfuryl fluoride is denser than air, it tends to settle into lower parts of a sealed space, making enclosed, sealable areas ideal for treatment. A freezer provides a controlled, gas-tight environment where the fumigant can be introduced and kept inside for the required exposure. Open air can't contain the gas, so it would dissipate too quickly to be effective. Forests are outdoor and unsealed, so containment is not possible. Water tanks involve liquid water that would absorb or dissolve the gas, and even if a tank were sealed, the presence of water makes fumigation impractical. Thus, the appropriate enclosure among the options is a freezer.

10. Which insect has round/irregular pits on its elytra?

- A. Rice weevil**
- B. Granary weevil
- C. Lesser grain borer
- D. Angoumois grain moth

The feature being tested is elytral texture—the pattern of pits or punctures on the beetle's hardened wing covers. The rice weevil has a distinctly pitted elytral surface, with round depressions giving a rough, dotted look. This helps distinguish it from other stored-grain pests. The granary weevil, while similar in size and shape, shows smoother elytra with fewer or no round pits. The lesser grain borer has a different, finer punctation and lacks the prominent round pits. The Angoumois grain moth is a moth, not a beetle, so its wings are scaled and don't exhibit this elytral pit pattern. So the insect with round/irregular pits on its elytra is the rice weevil.

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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://cat10cohiofumigation.examzify.com>

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

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