

AIR AND WATER POLLUTION CONTROL (AWPC) EXAM 1 PRACTICE (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

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

<https://awpc1.examzify.com>



Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	15

SAMPLE

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

SAMPLE

- 1. Do organophosphates exhibit significant mammalian toxicity?**
 - A. No
 - B. Yes
 - C. Only at extremely high doses
 - D. Unknown
- 2. Which term describes the properties 'large molecules, planar, lots of halogens, inert, and resistant to photolysis'?**
 - A. Biodegradable characteristics
 - B. Hydrophobic traits
 - C. Persistence traits
 - D. Foreign characteristics
- 3. Which statement about PM health effects is true?**
 - A. PM cannot be inhaled
 - B. PM can contain toxic or carcinogenic materials
 - C. PM comprises only inert minerals
 - D. PM improves lung function
- 4. What is the second most common type of pesticide?**
 - A. Fungicide
 - B. Rodenticides
 - C. Insecticide
 - D. Biopesticide
- 5. Which disinfection method has lower DBPs but potential taste/odor issues?**
 - A. Chloramination
 - B. UV
 - C. Chlorination
 - D. Ozone

6. Ambient monitoring networks: main purpose?

- A. To measure outdoor pollutant concentrations, assess compliance with NAAQS, and support air quality management decisions
- B. To measure indoor air quality
- C. To forecast weather
- D. To monitor soil contamination

7. Which type of pesticide is the most dominant?

- A. Herbicide
- B. Insecticide
- C. Fungicide
- D. Rodenticide

8. Pyrethrins and pyrethroids are which type of pesticide?

- A. Fungicide
- B. Bactericide
- C. Insecticide
- D. Herbicide

9. What is AP-42 and how is it used in regulatory contexts?

- A. A set of wastewater treatment design manuals.
- B. A weather forecasting model for dispersion analyses.
- C. A database of toxicology studies for air pollutants.
- D. An EPA compilation of emission factors used to estimate pollutant emissions for various sources in permit applications and modeling.

10. Which of the following best defines a point source in air pollution regulation?

- A. A single, identifiable discharge point, such as a smokestack from a power plant.
- B. Diffuse sources without a discrete discharge point.
- C. Emissions from mobile sources only.
- D. Air emissions from a city as a whole.

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. Do organophosphates exhibit significant mammalian toxicity?

- A. No
- B. Yes**
- C. Only at extremely high doses
- D. Unknown

Organophosphates are potent inhibitors of acetylcholinesterase in mammals, which prevents the breakdown of acetylcholine at cholinergic synapses. This causes overstimulation of both the peripheral and central nervous systems, leading to a cholinergic crisis with a range of symptoms from increased secretions and sweating to bronchospasm, bradycardia, seizures, and potentially death if exposure is high and not treated. The toxicity is a real and well-established risk because acetylcholinesterase is essential for terminating nerve signals throughout the body, so even relatively small exposures can cause significant effects. Some organophosphates require metabolic activation to a more potent form, and detoxification by enzymes like paraoxonase can influence the level of risk, but overall the class is known for significant mammalian toxicity. Therefore, the statement that they exhibit significant mammalian toxicity is correct.

2. Which term describes the properties 'large molecules, planar, lots of halogens, inert, and resistant to photolysis'?

- A. Biodegradable characteristics
- B. Hydrophobic traits
- C. Persistence traits
- D. Foreign characteristics**

These properties point to a substance that is foreign to the environment and highly persistent. Large, planar molecules rich in halogens tend to be chemically stable and resist breakdown by light and natural processes. Being inert and resistant to photolysis further reduces their chances of degradation, so they stay in the environment longer. The idea of "foreign characteristics" emphasizes that the compound is not naturally produced in the ecosystem, i.e., xenobiotic, which is why this term fits best. Biodegradable would imply easy breakdown, hydrophobic describes solubility aspects, and persistence traits describe longevity but not origin; the question specifically highlights the environmental origin as the distinguishing factor.

3. Which statement about PM health effects is true?

- A. PM cannot be inhaled
- B. PM can contain toxic or carcinogenic materials**
- C. PM comprises only inert minerals
- D. PM improves lung function

Particulate matter is a mixture of tiny particles in the air that people can inhale, and its health effects depend a lot on what it's made of. PM isn't limited to inert minerals; it can carry toxic metals and organic compounds, including carcinogens, from sources like vehicle exhaust, industry, and fires. Those harmful constituents can trigger airway inflammation and oxidative stress, and some can contribute to cancer risk, which is why PM exposure is linked to respiratory and cardiovascular problems. It's not true that PM cannot be inhaled, nor that it consists only of inert minerals, and PM exposure does not improve lung function.

4. What is the second most common type of pesticide?

- A. Fungicide
- B. Rodenticides
- C. Insecticide**
- D. Biopesticide

Understanding how pesticide usage stacks up by type is what this item tests. In agriculture, weeds are a universal challenge, so herbicides—designed to kill or control weeds—tend to be used in the largest volumes. Following that, insecticides are the next most commonly used because insects affect many crops, stored products, and can spread plant diseases, making protection from insects a high priority for farmers and pest-management programs. Fungicides and rodenticides, while important, are used in smaller total amounts, and biopesticides are growing but still contribute less to overall pesticide use. So, insecticides are typically the second most common type.

5. Which disinfection method has lower DBPs but potential taste/odor issues?

- A. Chloramination**
- B. UV
- C. Chlorination
- D. Ozone

Chloramination lowers disinfection byproducts because ammonia is added to chlorine to form chloramines, which are less reactive with natural organic matter than free chlorine. That reduces the formation of common DBPs like trihalomethanes and haloacetic acids. At the same time, chloramines can impart a noticeable taste and odor to the water, especially when the chloramine residual is high or during transitions in treatment. So this method achieves fewer DBPs but can introduce taste/odor issues, matching the described scenario.

6. Ambient monitoring networks: main purpose?

- A. To measure outdoor pollutant concentrations, assess compliance with NAAQS, and support air quality management decisions**
- B. To measure indoor air quality
- C. To forecast weather
- D. To monitor soil contamination

Ambient monitoring networks measure outdoor pollutant concentrations across multiple sites and times to support air quality management. Their main purpose is to determine whether outdoor air meets the National Ambient Air Quality Standards and to provide the data needed to make regulatory and policy decisions, such as setting controls, issuing compliance determinations, and informing public health advisories. These networks track trends, identify hotspots, and feed into models that forecast air quality and evaluate control effectiveness. They monitor pollutants like ozone, PM_{2.5}, PM₁₀, NO₂, SO₂, and CO, among others. They are not designed for indoor air quality, weather forecasting, or soil contamination monitoring, which require different monitoring approaches.

7. Which type of pesticide is the most dominant?

- A. Herbicide
- B. Insecticide
- C. Fungicide
- D. Rodenticide

Weed control dominates pesticide use because weeds present the most widespread and significant threat to crop yields. Weeds compete with crops for light, water, and nutrients, causing substantial yield losses if not kept in check. Herbicides offer a cost-effective, scalable solution that works across large fields and supports modern mechanized farming, with options for pre-emergence and post-emergence applications. This combination of broad applicability, economic payoff, and compatibility with high-volume agriculture makes herbicides the most widely used pesticide class globally. Insects, fungi, and rodents are important in specific situations, but their control is more crop- or problem-specific, leading to a smaller overall share of pesticide use compared to herbicides.

8. Pyrethrins and pyrethroids are which type of pesticide?

- A. Fungicide
- B. Bactericide
- C. Insecticide
- D. Herbicide

Pyrethrins and pyrethroids are insecticides because they're used to kill insects by targeting their nervous system. They work by affecting voltage-gated sodium channels in insect nerves, keeping them open longer, which causes rapid nerve firing, paralysis, and death. Pyrethrins are natural compounds from chrysanthemum flowers, while pyrethroids are synthetic versions designed to be more stable and potent. They are not fungicides, bactericides, or herbicides, which attack fungi, bacteria, or plants respectively. These chemicals provide quick knockdown and generally have relatively low mammalian toxicity, but they can impact aquatic life and bees, and pests can develop resistance with ongoing use.

9. What is AP-42 and how is it used in regulatory contexts?

- A. A set of wastewater treatment design manuals.
- B. A weather forecasting model for dispersion analyses.
- C. A database of toxicology studies for air pollutants.
- D. An EPA compilation of emission factors used to estimate pollutant emissions for various sources in permit applications and modeling.

AP-42 is an EPA compilation of emission factors that translate activity data into estimated pollutant emissions. Emission factors are typical amounts of pollutant emitted per unit of activity (for example, pounds of a pollutant per million standard cubic feet of natural gas burned or per ton of product produced). In regulatory contexts, these factors provide a standardized way to estimate potential emissions for a wide range of sources when direct measurements aren't available, and they feed into emission inventories and dispersion modeling used for permit applications and compliance demonstrations under air quality regulations. Facilities use these factors to project emissions, which then inform permit limits and compliance status by feeding into models that predict how those emissions would affect ambient air quality. This isn't a set of wastewater design manuals, nor a weather forecasting model, nor a database of toxicology studies.

10. Which of the following best defines a point source in air pollution regulation?

- A. A single, identifiable discharge point, such as a smokestack from a power plant.
- B. Diffuse sources without a discrete discharge point.
- C. Emissions from mobile sources only.
- D. Air emissions from a city as a whole.

A point source in air regulation means a single, identifiable discharge point where pollutants enter the atmosphere. This is the hallmark that lets regulators link emissions to a specific facility and set enforceable limits, perform stack tests, or use continuous emission monitoring. A smokestack from a power plant is the classic example. This concept differs from diffuse or area sources, which don't have one discrete discharge point, and from mobile sources, which move and can't be tied to a fixed location. Emissions from an entire city also aren't a point source because they come from many locations across an area rather than one stack.

SAMPLE

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://awpc1.examzify.com>

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

SAMPLE