

# Course Description Sheet

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## COURSE TITLE

Disinfection Basics

## COURSE DURATION

1 Hour

## OVERVIEW

This course is designed to provide you with the basic information and safety rules to help you work safely with and around the chemicals that many organizations use in the water disinfection process. This course concentrates on Aqua Ammonia, Sodium Hypochlorite, and Calcium Hypochlorite. We will examine each chemical and the safety procedures necessary for their safe handling and use.

## PREREQUISITES

No prior knowledge is required.

## BEHAVIORAL OBJECTIVES

After successfully completing this course, you will be able to:

- Understand water system sources.
- Understand the disinfection needs based on water source types.
- Explain disinfection requirements and regulations.
- Explain the general purpose of the disinfection process.
- Understand the bacteria, viruses and intestinal parasites that contaminate drinking water.
- Understand the factors that influence disinfection and how they influence it.
- Explain the most common types of chemical disinfectants and the advantages and disadvantages of each.
- Explain the dangers associated with disinfectants, such as sodium and calcium hypochlorite.
- Understand general safety considerations and practice for the use of the more common disinfecting chemicals.
- Explain the importance of your organization's safety policy.

## COURSE OUTLINE

| Chapter                              | Minutes   |
|--------------------------------------|-----------|
| Introduction                         | 3         |
| Principles & Foundations             | 10        |
| Microbiological Contaminants         | 8         |
| Factors Influencing Decisions        | 7         |
| Disinfection Process and Description | 14        |
| General Safety Information           | 6         |
| Disinfectant Chemicals               | 10        |
| Conclusion                           | 2         |
| <b>Course Total</b>                  | <b>60</b> |

## AVAILABILITY

This course is offered online and is available 24 hours a day, 7 days a week, 365 days a year.

## **TRAINING METHODOLOGY & EVALUATION**

This course is self-paced online training. Review exercises reinforce the content, and students are evaluated with a multiple-choice exam. Upon completion, students are prompted to submit a course evaluation.

## **REFERENCES**

1. Water System Design Manual, Washington State Department of Health, DOH Publication 331-123, Revised June 2020
2. Water Systems Planning Guidebook, Washington State Department of Health, DOH Publication 331-068, Revised August 2020
3. Water Distribution System Operation and Maintenance, Office of Water Programs California State University and USEPA,
4. Centers for Disease Control and Prevention, Water Disinfection with Chlorine and Chloramines, November 2017
5. USEPA, Drinking Water Requirements for States and Public Water Systems, November 2021
6. USEPA, Drinking Water Rules – including Safe Drinking Water Act (and amendments); Surface Water Treatment Rules (and Enhancements and Revisions); Revised Total Coliform Rules, and Disinfection By-Product Rules. (Link: [Drinking Water Regulations | US EPA](#))
7. Water Quality in Distribution Systems, American Water Works Association, Manual of Water Supply Practices, M68, 2017
8. Water Treatment, American Water Works Association, 2016 Revisions