



Exposure Assessment for Critical Health Hazards Training Course

15 – 19 March 2027

Johannesburg (South Africa)



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Introduction

Exposure assessment is a core discipline in occupational health because it helps organizations understand how workers come into contact with harmful agents and what that contact may mean for their health. This Exposure Assessment for Critical Health Hazards training course provides a foundation for identifying critical health hazards in workplaces, including chemical, physical, airborne, and environmental exposures. Participants will learn how exposure pathways, monitoring methods, and risk interpretation work together to support sound prevention decisions. The program explains how exposure data is collected, evaluated, and translated into practical risk reduction actions. It improves exposure limits, variability, and severity, ensuring assessments reflect real workplace conditions. Participants will interpret exposure information with greater confidence and connect it to effective control strategies and documentation practices.

Targeted Groups

This Exposure Assessment for Critical Health Hazards training targets professionals seeking knowledge and skills:

- Occupational health and safety specialists.
- Industrial hygienists and exposure assessors.
- Safety supervisors and compliance officers.
- EHS managers and site inspectors.
- Environmental monitoring personnel.
- Risk management and HSE teams.
- Health, safety, and operations staff.

Course Objectives

Participants will achieve the following objectives by completing the Exposure Assessment for Critical Health Hazards course:

- Understand the purpose and scope of exposure assessment.
- Identify major workplace health hazards and entry routes.
- Explain chemical, airborne, physical, and environmental exposures.
- Interpret occupational exposure limits and exposure profiles.
- Analyze exposure data and exposure variability.
- Characterize health risk using severity and prioritization methods.
- Apply control measures through the hierarchy of controls.
- Document exposure findings and reporting outputs clearly.

Targeted Competencies

Participants will gain the following competencies during the Exposure Assessment for Critical Health Hazards program:

- Recognizing hazard types and exposure sources.
- Reviewing exposure pathways and monitoring needs.
- Comparing exposure conditions against accepted limits.
- Evaluating noise, heat, vibration, radiation, and air quality risks.
- Translating monitoring data into risk judgments.
- Selecting practical exposure control options.
- Writing concise exposure assessment reports.

Studying Scenarios

In this Exposure Assessment for Critical Health Hazards training, participants develop skills through the following scenarios:

- Assessing worker exposure in dusty production areas.
- Reviewing chemical vapor readings in a mixed-use facility.
- Evaluating noise and heat stress in outdoor operations.
- Prioritizing multiple hazards using exposure severity and risk level.
- Choosing controls and documenting findings for management review.

Course Content

Unit 1: Fundamentals of Occupational Exposure Assessment

- Introduction to Exposure Assessment.
- Types of Workplace Health Hazards.
- Exposure Pathways and Routes of Entry.
- Occupational Health Risk Framework.
- Exposure Assessment Process.
- Hazard Identification Principles.

Unit 2: Chemical and Airborne Hazard Exposure Assessment

- Dust and Particulate Matter Exposure.
- Chemical Exposure Evaluation.
- Gas and Vapor Monitoring Concepts.
- Occupational Exposure Limits OELs.
- Workplace Exposure Profiles.
- Exposure Monitoring Strategies.

Unit 3: Physical and Environmental Health Hazards

- Noise Exposure Assessment.
- Heat Stress Evaluation.
- Vibration Exposure Assessment.
- Radiation Exposure Fundamentals.
- Indoor Air Quality Considerations.
- Environmental Monitoring Programs.

Unit 4: Exposure Evaluation and Risk Characterization

- Exposure Data Interpretation.
- Exposure Variability Concepts.
- Determining Exposure Severity.
- Health Risk Characterization.
- Exposure Ranking Techniques.
- Risk Prioritization Methods.

Unit 5: Exposure Control and Risk Reduction Strategies

- Hierarchy of Controls.
- Engineering Controls.
- Administrative Controls.
- Personal Protective Equipment PPE.
- Exposure Management Programs.
- Exposure Assessment Reporting and Documentation.

Final Insights & Key Takeaways

Exposure assessment is the bridge between hazard identification and effective prevention, making it essential for protecting workers from critical health risks. Strong assessment practice depends on accurate monitoring, clear interpretation, and disciplined control planning supported by reliable documentation.