



*Training Course:
Fundamentals of Toxicology*

*22 - 26 September 2025
Madrid (Spain)
Pestana CR7 Gran Vía*

Training Course: Fundamentals of Toxicology

Training Course code: HE235884 From: 22 - 26 September 2025 Venue: Madrid (Spain) - Pestana CR7 Gran Vía Training Course Fees: 6000 € Euro

Introduction

The "Fundamentals of Toxicology" training program is designed by Global Horizon Training Center to equip professionals with essential knowledge of toxicological principles, chemical safety, risk assessment, and the impact of toxins on human health and the environment. With the increasing use of chemicals in various industries such as pharmaceuticals, agriculture, cosmetics, and manufacturing, understanding toxicological mechanisms is vital for protecting health and ensuring regulatory compliance.

This course provides a strong foundation in both theoretical and practical aspects of toxicology, and is tailored to meet the needs of professionals involved in health, safety, quality control, regulatory affairs, laboratory analysis, and environmental monitoring.

Objectives

By the end of this course, participants will be able to:

- Understand the basic principles and classifications of toxicology.
- Identify routes of exposure and mechanisms of toxic action.
- Assess and interpret toxicological data for risk evaluation.
- Recognize signs and symptoms of toxicity in humans.
- Apply toxicological knowledge in occupational, environmental, and pharmaceutical settings.
- Navigate global regulations related to chemical and toxin safety.

Organizational Impact

Organizations that invest in this training will benefit through:

- Improved health and safety compliance.
- Enhanced risk assessment and hazard control strategies.
- Strengthened regulatory reporting and documentation.
- Reduction in incidents related to chemical exposure.
- Improved decision-making regarding the use of chemicals and substances.

- Enhanced organizational reputation for environmental and human health responsibility.

Target Audience

This program is ideal for:

- Health, Safety, and Environment HSE officers
- Laboratory technicians and scientists
- Environmental health professionals
- Occupational health personnel
- Regulatory affairs specialists
- Chemical and pharmaceutical industry workers
- Medical and forensic professionals
- Anyone seeking a foundational understanding of toxicology

Outlines

Day 1: Introduction to Toxicology

- History and scope of toxicology
- Definitions and basic terminology
- Classification of toxic agents
- Sources and types of toxins chemical, biological, physical
- Routes of exposure: inhalation, dermal, ingestion, injection
- Factors influencing toxicity dose-response, duration, individual sensitivity

Day 2: Mechanisms of Toxic Action and Biotransformation

- Absorption, distribution, metabolism, and excretion ADME
- Cellular and molecular mechanisms of toxicity
- Enzymatic detoxification and bioactivation
- Target organs and systemic effects

- Case studies: Organ-specific toxicants nephrotoxic, hepatotoxic, neurotoxic

Day 3: Toxicological Testing and Risk Assessment

- Types of toxicological testing acute, sub-chronic, chronic
- In vitro and in vivo testing methods
- LD50, NOAEL, LOAEL - interpretation and significance
- Risk assessment process and models
- Safety evaluation and exposure limits TLVs, PELs, etc.
- Regulatory frameworks: REACH, OSHA, EPA, WHO guidelines

Day 4: Toxicology in Public and Occupational Health

- Environmental toxicology and pollution control
- Occupational toxicology and workplace exposure
- Toxicology of pesticides, heavy metals, and solvents
- Toxicological emergencies and first aid procedures
- Ethical and legal issues in toxicology
- Real-world case studies and incident analyses

Day 5: Applied Toxicology and Evaluation

- Toxicology in pharmaceuticals and drug safety
- Forensic toxicology: principles and practices
- Analytical toxicology: instruments and interpretation
- Evaluating Material Safety Data Sheets MSDS
- Group exercises: Exposure scenario evaluation
- Final assessment and open discussion/Q&A

Registration form on the Training Course: Fundamentals of Toxicology

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Complete & Mail or fax to Global Horizon Training Center (GHTC) at the address given below

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Payment Method

- ☐ Please find enclosed a cheque made payable to Global Horizon
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