



OHTA

Occupational
Hygiene Training
Association

OHTA507 HEALTH EFFECTS OF HAZARDOUS SUBSTANCES

Course Description



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[Occupational Hygiene
Training Association \(OHTA\)](https://www.linkedin.com/company/occupational-hygiene-training-association-ohta/)



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<https://ohtatraining.org>

OHTA507 - HEALTH EFFECTS OF HAZARDOUS SUBSTANCES

In their work, hygienists use education, training, work experience, and measurement tools to assess the risk of adverse health effects to workers and those in the community that may be exposed to hazardous substances.

This course introduces students to industries where hazardous substances are commonly found and what their harmful effects can be. It also explains the foundational principles of physiology, toxicology and epidemiology.

This course is designed to increase awareness, knowledge, and management of hazardous substances found in many workplaces. It is suitable for OHS personnel, facilities managers, OH technicians, occupational physicians and allied health professionals, safety teams, and OH service providers.

This OHTA507 course has been delivered by OHTA approved training providers for over 10 years. In 2023, however, the course content was updated and reviewed by international experts to ensure that it is accurate and current.

Students will learn...

- Definitions of commonly used toxicological terms
- The main routes by which hazardous substances can enter the body, and the factors which influence their absorption, distribution, storage and elimination
- The main sources of information on hazardous substances and processes
- Hazardous substances commonly found in workplaces
- Principal target organs affected by hazardous substances found at work and the factors which influence the degree of harm
- Approaches in doing a basic interpretation of results from epidemiological studies

Course Design

- Delivered as a 5-day on-line or classroom training program
- On-line student examination with multiple choice questions
- Translation of the exam into the native language of students may be available
- Student manuals are available for free download in English, Spanish, or Turkish at <https://ohtatraining.org/students/fmanuals/manuals/ohta507/>
- Materials supplied to trainers include extensive slides, suggestions for Questions and Answers for class discussion, practicums, and case studies.

Additional Study Options

The OHTA507 course can be the first step to more training in the core aspects of OH leading to the ICertOHTA qualification. If you are pursuing a career in OH, see the list of OHTA courses and the qualification framework at <https://ohtatraining.org/students/fmanuals/>

Course Content

Introduction to Toxicology and Health Effects

- Toxicological Terms and Concepts
- Physical Forms of Hazardous Substances
- Types of Health Effects and Toxicity

Basic Human Biology and Target Organs

- Organ Systems including Skin
- Structure and Function
- Dose-Response Curves and Toxicity Testing

Epidemiology

- Epidemiological Terms
- Types of Epidemiological Studies

Health Effects Associated with Specific Materials

- Organic Solvents and Vapors
- Metals and Metal Compounds
- Dusts, Particulate Materials, and Mineral Fibers

Health Effects Associated with Specific Industrial Processes

- Materials Handling of solids, powders, and liquids
- Metals, Surface Coating and treatment of metal
- Soldering and Brazing
- Degreasing and Painting

Profiles on Select Industrial Processes that Use or Produce Hazardous Substances

- Smelting and Refining of Iron and Steel
- Foundries
- Mining and Quarrying
- Oil and Petroleum
- Pharmaceuticals

Regulatory Considerations and Sources of Information

Biological Hazards

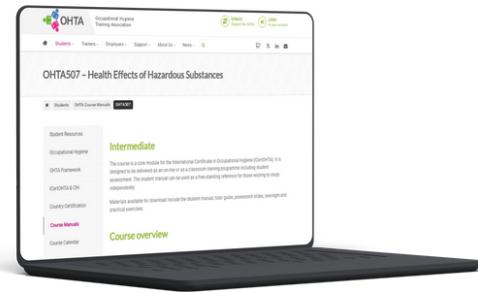
- Legionella and Humidifier Fever
- Blood Borne Diseases
- Zoonoses, Molds, and Pandemics

Next Steps

To find an in-person course in your area or an on-line course suitable for your time zone and language, see the Course Calendar at <https://ohtatraining.org/students/courses/>

If you are a certified occupational/industrial hygienist and would like to become an OHTA Approved Trainer for any of our courses, apply here: <https://ohtatraining.org/trainers/apply/>. Note that trainers set the course fees in local currency and keep the fees. The only fees paid to OHTA are for the mandatory exam for each student of \$125USD/£100.

For more information, please contact the OHTA Secretariat team@ohtatraining.org.



Testimonials

Have a look at what OHS Professionals are saying about the OHTA507 Course:

"The OHTA507 training module supports professionals who need to understand mechanisms of toxicity, exposure pathways, and how health effects inform risk assessment. The OHTA507 provides students with a solid understanding of toxicological principles and dose-response relationships along with insight into how chemicals, particles, and biological agents affect the body. Students will acquire the necessary skills to apply toxicology in practical exposure and risk assessments, will gain confidence interpreting toxicological data and regulatory information, and will learn tools to communicate health risks effectively and accurately."

Jake Ward (USA)
MBA, MPH, CIH, CSP
Senior Manager – Worldwide Industrial Hygiene

"The OHTA507 course provides a clear, well-structured understanding of toxicology principles, exposure pathways, and the clinical impacts of various hazardous agents. The content is highly relevant to my daily practice as an OH physician, helping me better evaluate workplace exposures, interpret risks, and guide evidence-based medical advice for workers. The practical examples and scientific depth of the manual strengthened my ability to link clinic findings with occupational hazards, ultimately improving the quality of care I deliver."

Dr. Chandrashekhar CS (India)
Bachelor of Medicine and Bachelor of Surgery, Associate Fellow of Industrial Health, Post Graduate Diploma in Environmental and Occupational Health, ICertOHTA
Occupational Health Physician with JSW Cement Ltd

"I highly recommend the OHTA507 course on Health Effects of Hazardous Substances. The course was extensively updated by a team of experts in 2023 and includes a comprehensive manual and trainer's materials such as slides and practical exercises to further engage the students. It is an exceptionally well-developed review of not only the toxicology of hazardous substances, but also principles of human physiology and epidemiology. The course covers hazardous chemicals and other substances used or produced in common industrial processes and other factors such as biological hazards. I am confident that this course will be of great value to students in OH/IH and other health-related fields."

Zack Mansdorf, (USA)
Ph.D., CIH, CSP, QEP (retired), FAIHA, FASSP
Consultant

Testimonials

Have a look at what OHS Professionals are saying about the OHTA507 Course:

“The OHTA507 course effectively covers the health effects of hazardous substances, helping students understand how hazards impact human health. It encourages interest in hazardous substance measurement and control strategies, forming a strong foundation for a career in occupational hygiene.”

Rondell Jay Baulos (Qatar)
CIH, CSP, CMIOSH
JAB International Consultancy

“Our workforce is exposed to a variety of toxic substances doing routine activities in their job. The OHTA507 offers an in-depth perspective on hazardous chemicals encountered in a wide range of operational processes. The OHTA507 course also provides understanding of how toxic substances affect our body mechanisms. Being an occupational hygienist or HSE professional, once we can recognize and evaluate toxic substances, it's much easier to define the control strategy.”

Uptal D Bhavsar (India)
CIH, CSP, Chairman and Managing Director
Principal Consultant for Sustainable EHS LLP