Training Course on Storage and Handling of Toxic Chemicals and Hazardous Materials

Professional Development Training Course Outline

Category	Logistics and Supply Chain Management	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Training Course on Storage & Handling of Toxic Chemicals and Hazardous Materials is a comprehensive, industry-aligned program designed to equip participants with advanced knowledge and best practices for managing dangerous substances safely. This course integrates global standards such as OSHA, NFPA, EPA, and REACH, and focuses on preventing workplace accidents, environmental contamination, and non-compliance risks. Participants will gain the skills necessary to implement safe storage systems, proper material classification, labeling protocols, and emergency response planning.

In today’s evolving industrial landscape, organizations must stay ahead of stringent regulatory requirements and sustainability goals. Through real-world case studies and hands-on simulations, this course emphasizes chemical safety management, regulatory compliance, hazardous material logistics, and environmental protection strategies. Whether you're from manufacturing, oil & gas, pharmaceuticals, or chemical industries, this course will provide crucial insights into creating a zero-incident workplace.

Programme Curriculum

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Course Objectives

1. Understand the classification of hazardous chemicals based on GHS standards.
2. Identify toxic materials and their physical and chemical hazards.
3. Implement best practices in hazardous materials storage and segregation.
4. Master spill prevention and emergency response procedures.
5. Ensure compliance with OSHA, EPA, NFPA, and REACH regulations.
6. Develop chemical inventory and labeling systems using SDS and HMIS.
7. Design safe chemical handling processes to prevent exposure.
8. Evaluate ventilation, PPE, and containment measures for toxic chemicals.
9. Mitigate risks through hazard communication and training programs.
10. Apply chemical compatibility analysis to storage planning.
11. Investigate past incidents and develop lessons-learned protocols.
12. Integrate sustainable hazardous waste disposal techniques.
13. Perform safety audits and inspections for chemical facilities.

Target Audience

1. Chemical Plant Operators
2. EHS (Environmental, Health & Safety) Managers
3. Industrial Engineers & Technicians
4. Warehouse Supervisors & Logistics Personnel
5. Regulatory Compliance Officers
6. Lab Technicians & Chemical Analysts
7. Facility Maintenance Personnel
8. Emergency Response Teams & Safety Officers

Course Duration: 10 days

Course Modules

Module 1: Introduction to Hazardous Materials

- Definition and classification of hazardous materials
- Overview of physical and health hazards
- Legal definitions (OSHA, EPA, DOT, GHS)
- Importance of regulatory compliance
- Hazardous material symbols and signage
- **Case Study**: Bhopal Gas Tragedy and Lessons Learned

Module 2: Chemical Identification and Labeling

- GHS labeling elements
- Understanding SDS sheets
- HMIS and NFPA labeling systems
- Labeling requirements for storage
- Role of barcoding and digital inventory
- **Case Study**: OSHA violations at a paint factory

Module 3: Storage Facility Design and Infrastructure

- Layout planning for hazardous storage areas
- Fire protection and ventilation systems
- Chemical segregation and compatibility zones
- Secondary containment systems
- Signage, lighting, and restricted access
- **Case Study**: Storage explosion due to incompatible chemicals

Module 4: Personal Protective Equipment (PPE)

- Types of PPE for chemical handling
- Proper selection and use protocols
- PPE maintenance and disposal
- Respiratory protection standards
- Employee training and fit testing
- **Case Study**: PPE misuse leading to chemical burns

Module 5: Spill Prevention and Control

- Spill containment tools and kits
- Spill response procedure
- Reporting and cleanup protocols
- Emergency decontamination methods
- Preventive inspection schedules
- **Case Study**: Mercury spill in a school lab

Module 6: Chemical Compatibility and Segregation

- Compatibility charts and software tools
- Incompatible chemical reactions
- Flammable vs. oxidizing material storage
- Proper shelving and racking techniques
- Labeling for segregation purposes
- **Case Study**: Warehouse fire due to poor segregation

Module 7: Chemical Inventory and Tracking

- Creating and managing chemical databases
- Integration with ERP systems
- Tracking usage and disposal timelines
- Periodic audits and updates
- Real-time digital tracking tools
- **Case Study**: Mislabeling incident in pharmaceutical storage

Module 8: Regulatory Framework and Standards

- Overview of OSHA HAZCOM standards
- EPA Resource Conservation and Recovery Act (RCRA)
- NFPA and REACH compliance
- Local and international shipping laws
- Reporting and documentation requirements
- **Case Study**: Compliance audit failure in a biotech firm

Module 9: Safe Chemical Handling Practices

- Manual vs. mechanical handling

- Transportation safety procedures
- Temperature-sensitive chemical protocols
- Transfer equipment (pumps, hoses)
- Ergonomic considerations
- **Case Study**: Solvent leak during manual handling

Module 10: Emergency Response Planning

- Roles and responsibilities in emergencies
- Evacuation route planning
- First aid for chemical exposure
- Firefighting systems for chemical fires
- Incident reporting procedures
- **Case Study**: Response to acid spill in a logistics center

Module 11: Waste Management and Disposal

- Classifying hazardous waste
- Labeling and storing chemical waste
- Disposal techniques (neutralization, incineration)
- Vendor selection for disposal
- Recordkeeping for waste tracking
- **Case Study**: Fines due to illegal disposal of lab chemicals

Module 12: Hazard Communication Programs

- Key components of a HAZCOM program
- Training and retraining protocols
- Multilingual safety training
- Documentation and communication tools
- Safety signage and bulletin boards
- **Case Study**: Employee injury from language barrier

Module 13: Industrial Hygiene and Exposure Monitoring

- Air sampling and vapor detection
- Threshold Limit Values (TLVs) and PELs
- Use of gas detection instruments
- Biological monitoring techniques
- Ventilation system assessment
- **Case Study**: Chronic exposure in pesticide factory

Module 14: Inspection, Audit, and Continuous Improvement

- Routine storage inspections
- Chemical risk assessment tools
- Non-compliance identification
- Corrective action planning
- Continuous improvement strategies
- **Case Study**: Annual audit discovers storage violations

Module 15: Leadership and Culture in Chemical Safety

- Building a safety-first workplace culture
- Leadership roles in compliance
- Empowering workers through training

- Incentivizing safe behavior
- Reporting without fear policies
- **Case Study**: Cultural change in a refineries company

Training Methodology

- Interactive classroom lectures with multimedia support
- Group exercises and role-playing scenarios
- Real-time hazard identification drills
- Workshops using actual safety data sheets (SDS)
- Case study analysis and problem-solving discussions
- Final assessment and feedback session

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

Ready to enroll or request a customized program? Book online or contact us:

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