

# H S E

HEALTH

SAFETY

ENVIRONMENT



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## **Hazardous Material Handling (Hazmat)**

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**Duration:** 5 Days



### **Introduction:**

This course is designed for engineers and technicians from a wide range of abilities and backgrounds and will provide an excellent introduction to mastering the management of hazardous waste materials as well as

preventing contamination of the environment. This knowledge makes the participant aware of the legal and regulatory aspects of pollution and the handling of hazardous waste materials within their plants. It will also allow them to reduce the amount of hazardous waste produced and save money through preventing personal injury and preventing or limiting the effects of accidental pollution.

### **Who Should Attend?**

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EH&S Personnel, anyone involved in the handling of hazardous materials: Project Leaders, Production Managers, Supervisors, Engineers and Technicians, Maintenance Managers, Supervisors, Engineers and Technicians, Consulting Engineers, Operation, Inspection and Repair Managers, Supervisors, Engineers

## Course Objectives:

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### By the end of this course delegates will be able to:

- Be able to identify potential sources of pollution in and around your plant
- Be familiar with the latest technologies and techniques for preventing contamination/pollution
- Be acquainted with the latest technologies and techniques for handling hazardous waste materials
- Have an understanding of detection and measurement of contamination
- Have the skills for managing hazardous waste materials
- Know how to plan for and deal with emergencies

## Course Outline:

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### Introduction

- Course objectives & definitions, Basic concepts
- Identification of potential pollution sources
- Pollution monitoring technologies
- Environmental effects of pollution/hazardous waste
- Job Safety and Environment Analysis (JSEA)
- Material Safety Data Sheets (MSDSs)
- Toxicology
- Radioactivity

### Regulatory Constraints

- Environmental laws

- Regulations governing storage and transportation of hazardous materials (national, provincial, regional, municipal)
- Brief comparison with regulatory requirements in other countries

### **Water Supplies**

- Importance of protecting water supplies
- Water treatment process
- Ground water management
- Drinking water management

### **Air**

- Importance of protecting air quality
- Pollution prevention
- Pollution monitoring
- Air cleaning

### **Personal Safety**

- Personal Protection Equipment
- Handling flammable materials
- Handling corrosive materials
- Handling poisonous substances
- Handling radioactive materials

### **Pollution/Contamination Prevention Procedures**

- Material balance systems including statistical inventory reconciliation analysis

- Building/plant design/layout
- Safety codes
- Management systems – induction, training, standard operating procedures

### **Contingency Planning**

- Planning for emergencies
- Training of response teams
- Protective equipment and clothing & Dealing with spillage
- Dealing with release of hazardous substances into the atmosphere

### **Measuring Techniques**

- Measurement techniques – sampling and testing
- Statistical sampling theory

### **Costs and Benefits**

- Cost-benefit trade-offs, Opportunity costs
- Costs of implementing (or not implementing safety measures)
- Ethical issues

### **Other Important Issues**

- Hazardous data sheets, information required to complete or interpret hazard data sheets
- Packaging hazardous substances for carriage
- Transportation of hazardous substances, key international regulations
- The role of the purchasing department in ensuring safe handling

- Transport of hazardous substances
- Documentation needs
- Safety equipment
- Operational controls/limits
- Storage of hazardous substances
- Bulk storage
- Packaged goods storage
- Chemical warehouses, design and operational features
- PPE assessments selection and use
- Risk assessment as applied to transport and storage of hazardous substances
- Safe handling, control and measurement of exposure to hazardous substances
- Spillage containment, emergency response and decontamination/remediation
- The problems associated with the disposal of chemical waste
- Special requirements relating to hazardous work
- Hazardous work documentation
- Key procedures, a suggested approved to the development of procedures
- Training needs assessment for the distribution and storage process