

Chemical Handling

Who should attend: Supervisors and Above

Objectives

This course will provide an introduction to the potential hazards when dealing with chemicals. After outlining chemical properties details are given of potential health risks, storage facilities, handling, protective equipment and methods for dealing with chemical releases.

Expert advice will be given aimed at:

- Reducing potential hazards
- Removing risks and in the event of an incident
- Minimizing the consequences
- Information is provided covering planning and dealing with an emergency should a major incident occur.

Video examples of real and fictional incidents are given along with practical workshops.

At the end of the programme, participants will understand:

- The characteristics of chemical hazards
- How to minimize the risk of their hazardous potential being released.
- Basic design and layout for good storage and handling procedures.
- Safe operations involving bulk storage, transfer and handling.
- How to deal with incidents involving the release of chemical.
- Procedures for dealing with spillages.
- Reporting requirements to relevant authorities.
- Safe disposal procedures for unwanted substances.

Course Outline

- ◆ Introduction.
- ◆ Properties of Chemicals
 - Introduction
 - Classification of chemicals
 - Classification of substances and physical state of dangerous substances in general
 - Chemicals and cylinders that client use
 - Classification of substances of chemicals that client use
- ◆ Occupational Health Hazards and Occupational Hygiene Practice
 - Harmful substances
 - Toxic chemicals
 - Thresholds for airborne contaminants
 - Other harmful substances
 - Relating these and discussing about the Harmful substances, toxic chemicals and thresholds for airborne contaminants of chemicals that client use
- ◆ Corrosive Chemicals
 - Introduction of corrosive chemicals
 - What are the corrosive chemicals that client handles

- Production activities involving corrosive chemicals
- Packing, Mixing & Blending of corrosive chemicals
- Reactor operation, Physical processing
- Maintenance & modifications
- Discussing of the above relating to type of corrosive chemicals that client use
- ◆ **Chemical Storage Methods**
 - Good storage and housekeeping
 - Precautions to achieve safe storage
 - What is the good storage and housekeeping of the types of chemicals and cylinders that client use
 - What are the precautions to be done for safe storage of the types of chemicals and cylinders that client use
- ◆ **Precautions During the Handling of Chemicals**
 - Personal protective clothing
 - Other PPE
 - Kinds of personal protective clothing and PPE that should be used to handle the specific types of chemical and cylinders that client use
 - Transporting, lifting and handling
 - Awareness training
- ◆ **Precautions with Specific Substances**
 - Introduction of storage of hazardous substances
 - Introduction of hazardous substance in packages
 - Discussing what are the hazardous substances stored at client facility
 - Highly flammable liquids & liquefied petroleum gas
 - Special precautions for the storage of liquefied petroleum gases
 - Flammable liquids & liquefied petroleum gas handled at client?
 - Precautions to be taken for the storage of these gases at client?
- ◆ **Bulk Chemical Storage Requirements**
 - Bulk chemical stores
 - What are the types chemicals that client store in bulk
 - Storage of packaged materials
 - Control of stock
 - How client controls stock of Bulk Chemicals
 - Segregation / minimum distances
 - Bulk liquid storage of the types of the Chemicals that client use
 - Special considerations for storing flammable liquids in tanks
 - Discussing what the flammable liquids that client store in tanks and what are considerations applicable for these
 - Delivery transfers and dispatches procedures
- ◆ **Storage Facilities for Flammable Liquids**
 - Storage of flammable liquids in containers
 - What are the flammable liquids that client handles?
 - Storage of the flammable liquids that client handles
 - Electrical hazards in storage areas
 - Static electricity
 - Compressed gases
 - Compressed gases that client handles
 - Special considerations for storing flammable liquids in tanks
 - Discussing what the flammable liquids that client store in tanks and what are considerations applicable for these

- ◆ **Labelling, Warning Notices and Security**
 - Legal requirements and ensuring staff are fully aware of symbols and signs
 - Informing non-staff personnel and the general public
 - Labels and warning notices
 - Security
 - Applicable types of labels, warning notices, symbols and signs of the specific types of chemicals and cylinders that client handles
 - Discussing the security measure at client
- ◆ **Legal Requirements**
 - Health and Safety at Work Regulations
 - Management of health and safety at work
 - Regulations
- ◆ **Ensuring that The User is Aware**
 - Management of health & safety issues
 - Educating, training, communication supervising and auditing
- ◆ **The Dangers When Using Organic Solvents**
 - Discussing use of organic solvents in client facility
- ◆ **Spillages**
 - Handling of spillages
 - How spillage are handled at client warehouse and storage facilities
 - Handling spillages of the specific types of chemicals that client has
- ◆ **Transportation**
 - Transporting, lifting and handling
 - Delivery transfers and dispatches procedures
 - On-site transport procedures
 - On-site transport procedure, delivery transfers and dispatches procedures of the types of chemicals and cylinders that client use
 - Types of protective clothing and PPE to be used during transportation
- ◆ **Fire and Explosions**
 - Precautions and fire fighting methods
 - The fire triangle; Potential ignition sources
 - Methods of control
 - Prevention of fire spread
 - Methods for reducing both the risk and consequences of an incident
 - Potential energetic substances
 - Flammable or explosive atmospheres
 - Dust explosions
 - Fire zone classification
 - Emergency routes
- ◆ **Methods of Incident Reporting, Recording and Subsequent Actions.**
- ◆ **The Handling of Emergencies**
 - A typical emergency site plan structure
 - Classification, planning, key personnel and their role
 - Communications
 - Site emergency organisation

For any further information please contact us at:

P.O. Box 3808, Al-Khobar 31952, Kingdom of Saudi Arabia
Tel: +966 (3) 865-6992 Ext 23, Fax: +966 (3) 865-6922, Mobile : 0508008731
E-mail: info@mstcme.com / das.mstc@yahoo.com