STORAGE, HANDLING AND SAFE USE OF CHEMICALS AND HAZARDOUS MATERIALS

TRAINIT ACADEMY

HSE132
Health, Safety & Environmental

COURSE TITLE

STORAGE, HANDLING AND SAFE USE OF CHEMICALS AND HAZARDOUS MATERIALS

COURSE DATE/ VENUE

03 – 07 August 2020

London, UK

COURSE REFERENCE

HSE132

COURSE DURATION

05 Days

DISCIPLINE

Health, Safety & Environmental

COURSE INTRODUCTION

The storage and safe handling of chemicals and hazardous materials require compliance with a complex array of regulations and the use of specialized technical facilities, operations and equipment to ensure safe and proper management. This course provides a practical method of assessing the properties of chemicals and tracks the legislative framework that surrounds the safe management of these materials.

This course also provides practical guidelines for identification, segregation and movement of chemicals, as well as methods for the evaluation of facilities and specialized equipment necessary for the safe and effective storage and transfer of hazardous chemicals.

COURSE OBJECTIVE

Upon successful completion of this course, the delegates will be able to:

- ✓ Apply the learnt knowledge on storage and handling of chemical and toxic materials
- ✓ Carryout transportation of hazardous substances
- ✓ Handle and assess the risk prior to working with hazardous substances
- ✓ Explain procedures of dealing with spills and contamination of persons and property
- ✓ Appreciate the needs for emergency response plans
- ✓ Recognize the production of a hazardous substance procedure manual
- ✓ Perform safe disposal of hazardous waste and by products
- ✓ Use personal protective equipment for working with hazardous substances
- ✓ Implement purchasing controls for ordering hazardous materials and identify storage facilities and security considerations

COURSE AUDIENCE

All site staff handling chemicals.

Material managers and facility operators who store or handle chemicals, Engineers with limited knowledge of chemicals and their properties, construction site managers, engineers and architects responsible for the design of facilities for hazardous materials management, personnel responsible for implementing training programmes and methods for hazardous chemicals, managers wishing to ensure compliance with applicable legislation and a reduction of risk for hazardous chemicals management, and safety personnel plus other people whose position in the company requires them to acquire this knowledge.

COURSE CONTENT

DAY 1

Introduction

- Relevance of ISO 14001 EMS, and OHSAS 18001
- Identification, Classification And Properties Of Hazardous Chemicals

Hazardous Chemicals Definitions

- Health Hazard

- Physical Hazard

Hazard Rating

Hazard Classes

Classification of Chemicals:

- Methods of Classification
- Solids, liquids, gases
- Flammable & Explosive Chemicals
- Inorganic and organic materials
- Oxidants and reducing agents

Physical Properties of Chemicals

Hazard Classification Systems

Fire Hazards

- Toxicity Hazard
- Corrosive Hazard
- Chemical Reactivity Hazard

DAY 2

Exposure Hazards & Health Effects Chemicals

- Overview
- Routes of Entry
- Acute Effects
- Chronic Effects
- Exposure Definitions, Limits & Calculations
- Health Effects of Chemicals
- Eyewash
- Emergency Shower
- Medical Consultation

Chemical & Hazard Labelling

- Overview
- Chemical Labeling
- Hazard Identification System

- Warning Systems

Material Safety Data Sheet (MSDS)

- Overview
- MSDS Content
- How to Read MSDSs and Understand Them.
- Exercise-1: A group discussion of some MSDSs of Typical Chemicals used
- Exercise-2: Selected participants will be required to read and explain for the others some MSDSs

DAY 3

Storage of Chemicals

- Overview
- Chemicals Compatibility
- Bulk Chemical Storage Facilities
- Storage of Flammable & Explosive Chemicals
- Storage of Compressed Gas & Cryogenics
- Specialized Storage Requirements
- Common Mistakes in Chemical Storage
- Case Study

General Rules & Precautions of Chemical Handling

- Overview
- Work Practice Controls
- Basic Chemical Handling
- Handling of Compressed Gas
- Working Alone
- Standard Operating Procedures (SOP)
- Fire Precautions
- Warning Notices & Security
- Good Housekeeping
- Case Study: to show some common wrong actions & ask the participants to propose the correct safe procedures _ Group discussion

Personal Protection

- Personal Protective Equipment (PPE) and Clothing
- Introduction
- Selection Criteria
- Equipment / PPE Use
- TRANSPORTATION OF CHEMICALS
- Overview
- Legislative requirements
- Labels, Marking and Placards for packages, trucks and large containers
- Containers
    - Types
    - Basic Design and Main Properties
    - Inspection of Containers
- Loading and Unloading

Compressed Gas Cylinder Transportation

- Emergency Response

Case Histories of Hazardous Chemicals Mismanagement

DAY 4

Chemical Waste Disposal

- Hazardous Chemical Waste Disposal Policy
- Chemical Safety
- Chemical Waste
- Basic procedures
- Containers
- Container condition
- Container volumes & sizes
- Labeling of containers
- Disposal of empty containers
- Storage of waste chemicals
- Bulking or mixing of waste chemicals

- Over-packing or boxing up of multiple chemical containers
- Chemical removal request form
- Hazard identification
- Hazardous materials program
- Case Study

Identification and Dealing with Unknown Chemicals

- Classification of Chemicals
- Unknown Chemical Identification Techniques
- Basic Precautions and Methods of Dealing with Unknown Chemicals

DAY 5

Chemicals Spill Response

- Chemical Spills
- Minor Chemical Spills
- Emergency Chemical Spills
- Spill of Solid, Liquid and Volatile Chemicals and Cleanup Procedures
- Leaking Compressed Gas Cylinders & Vessels
- Spill response equipment (contents, materials, compatibility, size, capacity, back-up, placement locations)
- Spill Contingency Plan
- Fires
- Fire Plan (requirements, reactions, explosions, firefighting methods)
- Loss prevention procedures
- Release of Toxic Gases
- Levels of Protection (Level A, B, C, D)
- Medical Emergencies
- General first aid and Personal protection during 1st aid
- Case Study & Group Exercise: Certain Chemical Spills (including Oil Spill), The Response & The Cleanup Procedures

Site Emergencies/ Contingency Plan

- Introduction

- Preparation
- Field Actions
    - Site and Work Preparation
    - Emergency Response Procedures
    - Evacuation
    - Leadership During an Emergency

COURSE CERTIFICATE

TRAINIT ACADEMY will award an internationally recognized certificate(s) for each delegate on completion of training.

COURSE FEES

$6,150 per Delegate. This rate includes participant's manual, Hand-Outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

COURSE METHODOLOGY

The training course will be highly participatory and the course leader will present, guide and facilitate learning, using a range of methods including formal presentation, discussions, sector-specific case studies and exercises. Above all, the course leader will make extensive use of real-life case examples in which he has been personally involved. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Case studies & Practical Exercises
- 10% Role Play
- 10% Videos, Software or Simulators (as applicable) & General Discussions