

OBJECTIVES:

The program shall cover the identification of hazardous materials handled in process plants and understanding of their properties. The presentation shall highlight the expected hazards, classification and the safety requirements. This will cover the present rules and regulation, safety codes and good engineering practices in handling the hazardous materials.

At the end of the course, the participants will be able to:

1. Refer to the relevant specifications regarding chemical handling and hazardous material.
2. Determine the characteristic of a wide range of hazardous substances.
3. Minimize the risk of their hazardous potential being released.
4. Do basic design and layout for good storage and handling procedures.
5. Perform the safe operations involving bulk storage, transfer and handling.
6. Manage the incidents involving the release of hazardous substances.
7. Prepare and use the relevant procedures when dealing with chemical spillages.
8. Prepare the reports for submission to the relevant authorities.
9. Prepare and use the safe disposal procedures for unwanted substances.



Who Should Attend

- Technicians, senior technicians, engineers and senior staff who are handling storage, handling, transfer the chemicals
- Engineers and operating personnel who are making day to day decisions regarding operation and maintenance of process plants
- Managers and fresh engineers who wish to refresh or broaden their understanding of process plant integrity, safety and operation
- Inspection engineers and Safety Auditors

COVERAGE OUTLINES:

The training program would be of 4 (Four) days and would cover broadly the following areas:

1. Introduction to potential hazards.
2. Classification of hazardous substances.
3. The hazards of harmful substances.
4. Specialized storage requirements.
5. Bulk chemical storage facilities.
6. Precautions during the handling of chemicals.
7. Labeling, warning notices and security.
8. Exposure to substances hazardous to health.
9. Work related illnesses and potential consequences of accidents.
10. Health care procedures.
11. Sources of ignition including static electricity.
12. Fire and explosion precautions and fire fighting methods.
13. Chemical storage requirements.
14. Good house keeping, documentation and auditing.
15. Transfer and handling procedures.
16. Accidents and spillage.
17. Site safety assessment.
18. Requirement for the assessment of potential hazards and risks in process industries.
19. Loss prevention procedures.
20. Planning for and handling emergencies.



Tentative Day-wise schedule shall be as follows

Day 1

- Inauguration of the Program, Introduction
- Preliminary Evaluation Test-1
- Philosophy of Safety
- Introduction to Process Safety
- Process Safety check
- Explanations on Chemical Properties
- Process Safety & Hazard Management Systems

Day 3

- Acetic Acid: Product Specification, Hazards & Safety Instructions
- Nitric Acid: Product Specification, Hazards & Safety Instructions
- Hydrogen Peroxide: Product Specification, Hazards & Safety Instructions
- Chlorine: Product Specifications, Chemical Hazards & Safety Instructions.
- Hazardous Area Classification for Electrical Equipments
- Engineering Materials of Construction & Properties

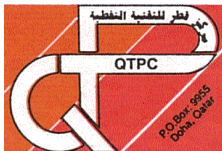
Day 2

- Ammonia: Product Properties; Safety Precautions during Handling
- Methanol: Product Specifications, Chemical Hazards & Safety Instructions.
- LPG: Product Specification, Hazards and Safe Operating Practices
- Safety in Handling Petroleum Products
- Benzene, Toulene & Xylene: Product Specification, Hazards & Safety Instructions
- Evaluation Test- 2.

Day 4

- Approach for Safe Process Design of Plant
- Design & Operation of Inherently Safer Chemical Plant
- Safety of Process Plants by Emergency Relief System
- Discharge Limits of Pollutants of Industries
- Storage & handling of LPG
- Ammonia Storage & Handling and Safety Measures
- Safe Plant Layout of Hydrocarbon Units
- Inspection for Safety
- Design and Operate Flares Safely
- Hazards Analysis & Risk assessment
- Final Test-3 (Objective)





QATAR TECHNICAL PETROLEUM CENTER

Storage, Handling and Safe use of Chemicals and Hazardous Materials

QTPC - AN ISO 9001:2008 Regd.



About the Instructor



T.SANKARANARAYANAN

Educational Qualifications:

B.Tech.(Chem. Engg),P.G.D.I.E.(M.I.S.)

Lead Auditor -ISO 9001 QMS (IRCA- UK) & ISO 14001 - EMS (EARA - UK), ISO 27001 and OHSAS

18001, CDM Validator / Verifier, Consultant - World Bank Projects - Tamilnadu Govt., India,

British Commonwealth Consultant (Reg. No. - CWS / 0010977),

Chief Consultant, OCTEP Consultants Pvt Ltd., Chennai-32, India

EDUCATIONAL QUALIFICATION & EXPERTISE:

He had obtained Distinction in B. Tech. degree in Chemical Engineering from the University of Madras in 1976, and Post Graduation in Industrial Engineering (P.G.D.I.E) with specialization in M.I.S. from T.I.P.I.E. of the National Productivity Council (Dept. of Industrial Development, Ministry of Industry, Govt. of India), in the year 1979.

He also a qualified Lead Auditor in ISO 9001 QMS certified by IRCA (UK) and IQCS (Singapore), and an Advanced Auditor in ISO 14001 EMS by EARA (UK) and EXXEL (UK), ISO 27001 ISMS and OHSAS 18001. Besides, He had attended and successfully completed 19 short term advanced management courses conducted by several reputed institutes.

In the field of I.T., He is an Proficient in several systems, primarily in MIS, ERP, DEM etc

TRAINING / CONSULTANCY:

He had started my career as a Chemical Engineer, and then worked as Plant - Engineer in a Refinery -cum- Solvent Extraction Unit for 1 1/2 years. After undergoing training as an Industrial Engineer for 2 years with NPC, the premier Consultancy Organization of Govt. of India, He had served NPC as an Assistant Director / Consultant, for 4 1/2 years. Thereafter, I joined TASCO / TNCSF, a Govt. of Tamilnadu organization, as the Head of the Industrial Engineering Division, in the rank of Additional Secretary, and rendered consulting and advisory services to the Sugar industry in the State, for 2 1/2 years. He joined OCTEP Consultants (P) Ltd., in October, 1986, as Chief Consultant. Currently, he is the CEO / ED for Consulting & training operations.

He had got rich consultancy experience in a wide spectrum of Industries such as Sugar, Plywood, Tea, Salt, Fruit Processing, Edible Oil Refining and Solvent Extraction, Chemicals, Fertilizers, Automotive, Petroleum, Petrochemicals, LPG, Natural Gas, Mining & Coal, Plastics, Paper & Pulp, Engineering, Manufacturing, Computer Stationary Printing, Computer & Office Equipments, IT & Software development, Corporate Trading houses, FMCG, Textiles, Ready made Garments, Handloom, Handicrafts, Rural Industries, Transport, Hospitals, Banks, Super & Hyper Markets, Ware Housing, Hotel Corporations, Agro - Industries, Ports, Educational Institutions, Paint Mfg., Automotive Sales and Service, Engineering Construction and Contracting for Oilfield operations, Switchgear Mfg., Fibre Cement Pipes, P.V.C. Pipes, Railways, Airports, etc. He had prepared Pre - Feasibility Reports, Project profiles, Technical Feasibility Reports, Economic Viability Reports, and detailed Project Reports for 60 industries. He had also set up 15 industrial units, notable among them being a plywood manufacturing unit in 1982, and a Salt Refinery - cum - Iodisation Unit in 1995/96.

He had so far carried out more than 240 consultancy assignments, covering more than 90 organizations.