

Classification of Hazardous Areas

Course Description

Hazardous area classification is an essential tool to ensure safety in a plant by the identification of flammable atmospheres and the control of ignition sources. Even though the principle has been well established over the years, with the aim of selecting appropriately protected electrical equipment, new developments continue to occur. For instance, the definitions for hazardous areas for dust explosion hazards are being changed fundamentally. This course will present the state of the art and explain the procedure for executing a hazardous area classification for both flammable gases (vapours) and dusts.

Course Outline

◆ Introduction

- Hazards all around
- History of the recognition of ignition risks
- Principles of area classification
- Hazard triangle
- Selection of electrical apparatus
- Legal responsibilities

◆ Explosion Hazards.

◆ The Ignition of Flammable & Combustible Materials

- Introduction
- Properties of flammable materials
 - Occupational Exposure Limits (OEL)
 - Flashpoint
 - Flammable (Explosive) Limits
 - Minimum explosives concentration
 - Ignition energy
 - Ignition temperature
- Ignition Sources
 - Spark ignition
 - Hot Surface ignition
 - Less usual sources of ignition
- Protection from sources of ignition

◆ Object and Principles of Classification of Hazardous Areas - Gas Vapour Risks

- Object of area classification
- Sources of release
- Examples of hazardous area
 - Zone 0
 - Zone 1
 - Zone 2
 - Non-hazardous area
 - Materials handled below their flashpoint
 - Mists
 - Extent of hazardous areas
- Use of area classification
- Indoor areas
- Effect of area classification on plant design
- Extents of hazardous area

◆ Area Classification Review Guidance

- Introduction
- Responsibilities for area classification
- Timing
- Area classification procedure
- Area classification meeting
- First area classification reviews
- Subsequent area classification reviews

◆ Area Classification - Dusts

- Introduction
 - Dispersion
 - Layers
- Special statutory requirements
- Classification of hazardous areas
- Grouping & classification
 - Dust layers
 - Temperature classification
- Other features of dusts
- Dustnapour mixtures

◆ Indoors and other Situations which Require Special Consideration

- Introduction
- Inside buildings - general
- Grades release
 - Continuous grade of release
 - Primary grade of release
 - Secondary grades of release
- Buildings opening into hazardous areas
 - Exterior Zone 0
 - Exterior Zone 1
 - Exterior Zones 2
 - Normal (free) ventilation
 - Obstructions
- Ventilation
 - The laminar flow booth
- Boiler houses
- Battery rooms

◆ Workshops will cover various aspects of hazard spotting, assessment and evaluation.**Who Should Attend**

- ✓ Plant, production and safety managers
- ✓ Design, developmental and chemical engineers
- ✓ Insurance personnel
- ✓ Corporate risk managers

For any further information please contact us at:

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