Occupational health and safety

Explosive Atmospheres (ATEX)

One day to understand and control the risk of explosion linked to combustible gases, vapours and dusts: flour, sugar, starch, solvents, alcohol, gas. Conditions for an explosion, zoning, ignition sources, equipment suited to hazardous areas and rules for working in them are studied on your own site's installations, up to the analysis of an area in a workshop.

Duration : 1 day

Objectives

1. Explain the conditions for an explosion of gases, vapours or dusts and the parameters that favour it
2. Identify explosive atmosphere areas and their classification: 0, 1 and 2 for gases, 20, 21 and 22 for dusts
3. Spot ignition sources: electrical equipment, static electricity, hot work, friction, hot surfaces
4. Read the marking of equipment intended for hazardous areas and check it suits the zone
5. Apply the rules for working in a zone: permits, tools, cleaning of dust deposits, instructions

Programme

Day 1 — morning

• Industrial explosions: silos, dust collectors, solvent tanks, bulk loading

• Conditions for an explosion: fuel, oxidiser, ignition source, explosive range, confinement, suspension

• Zoning: frequency and duration of the explosive atmosphere, zoning plans

• European ATEX framework: equipment for hazardous areas, protection of workers, explosion protection document

Day 1 — afternoon (workshop)

• Preventing ignition sources: earthing, equipotential bonding, control of hot work, maintenance

• Equipment for hazardous areas: categories, protection types, reading the marking

• Workshop: analysis of an area of your site, ignition sources present and measures to take

• Work in zones: permits, suitable tools, cleaning of dust; knowledge test

Teaching methods

• Industrial explosion cases analysed, notably in food processing and chemicals

• Visit to a hazardous area of your site: silo, mill, solvent room or battery charging room

• Reading the marking on the equipment installed at your site

• Simplified zoning exercise on a plan

• Knowledge test on zoning, ignition sources and marking

Assessment and documents

Knowledge test and day+1 learner feedback survey. Numbered certificate, verifiable online, for each participant; training report and the analysis of the area studied in the workshop, with the proposed measures, given to the company.

Bilingual materials for every participant; each classroom course comes with its digital twin on OmniLearn.

Good to know

This course raises awareness and gives tools; zoning your installations remains a technical study in its own right. Hot work is covered in “Hot Work and Flammable Liquids”.

Practical information

Duration	1 day
Audience	HSE and maintenance managers, electricians, staff working or intervening in explosion-risk areas
Prerequisites	No prerequisites
Group size	Groups of 6 to 12 participants, in-company
Format	In-company, face to face on your site
Language	French, Darija or English; bilingual materials
Funding	OFPPT special training contracts (TFP), GIAC, Maroc PME: we prepare the applications with you, at no extra cost.
Programme customisation	Programme adapted to your procedures, your equipment and your audience

Frequently asked questions

Are food dusts really explosive?

Yes. Flour, sugar, starch, milk powder or cereals can explode when suspended in air in the presence of an ignition source. Silos, pneumatic conveying and dust collectors are the points to examine first.

Does the course allow us to carry out our zoning?

It gives the basics to understand a zoning study, challenge it or keep it up to date, and to spot forgotten zones. The zoning itself requires a technical study of your installations, which your teams will be better able to steer after the course.

What should be done about unmarked equipment installed in a zone?

Report it, assess whether it can be an ignition source and decide on its replacement or relocation. The workshop teaches how to make this survey and rank priorities.

Who should attend?

HSE and maintenance managers, electricians, people who work or intervene in zones: silos, solvent stores, powder workshops, charging rooms. Outside maintenance companies benefit from being involved.