



**NCEC**  
HAZMAT  
ACADEMY

# Introduction to Physical Hazards

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# AGENDA

AIMS & OBJECTIVES

---

INTRODUCTION TO PHYSICAL HAZARDS

---

SIGNAGE, LABELLING AND PLACARDING

---

COMMON OCCURENCES

---

PROTECTING YOURSELF FROM PHYSICAL HAZARDS

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# Aims & Objectives



The aim of this session is to introduce learners to physical hazards and to substances that express these

## Objectives

- Identify what physical hazards are
- Describe the various physical hazards substances may have
- Discuss common substances and materials that express physical hazards (over other hazards)
- Explore possible protection methods against physical hazards

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# What are Physical Hazards?

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Hazards of a substance, article or product that express particular physical or chemical properties that can cause significant damage to people, property or the environment.

## These include:

Explosive  
material

Gases under  
pressure

Combustible  
dusts

Flammable  
solids

Pyrophoric  
substances

Water-  
reactive  
substances

Flammable  
Liquids

Slop-over /  
boil-over

Flammable  
vapour / gas

Oxidising  
materials

Oxygen  
enriched  
atmospheres

Cryogenic  
substances

## How do these differ to Health hazards?

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# Signage, labelling & placarding

## ADR / UN Classes



Explosives



Non-Flammable Gas  
Non-Toxic Gas



Flammable Gas



Flammable Liquid



Dangerous  
when wet



Flammable Solid



Spontaneously  
Combustible



Oxidizer



Organic Peroxide

## GHS



Explosive



Flammable  
Pyrophoric



Oxidizing



Irritant



Compressed Gas  
Liquefied Gas



Corrosive to metals??

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## Common examples

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- Fuels
- Fuel gases
- Cylinders
- Li-ion battery technology
- Alternatively fuelled vehicles
  - Batteries, Hydrogen, Compressed Natural Gas (CNG) etc.
- Fertiliser
- Lubricants
- Oil / solvent drums
- Wood / coal / sugar / metal dusts
- Metal works – foundries, processing plants
- Plastic manufacturing – organic ingredients
- Munitions

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## Dealing with Physical Hazards – Management of...

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Vapour

Temperature

PPE

Crew briefing

Cordon /  
public safety

Equipment

Unaffected  
substances

Contamination



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Any Questions?