CMS Business Consultancy

“EXCELL PURITY, ASSURE SAFETY”

"Decode the Signs, Prevent the Hazards! A Visual Guide to Chemical Safety Pictograms"

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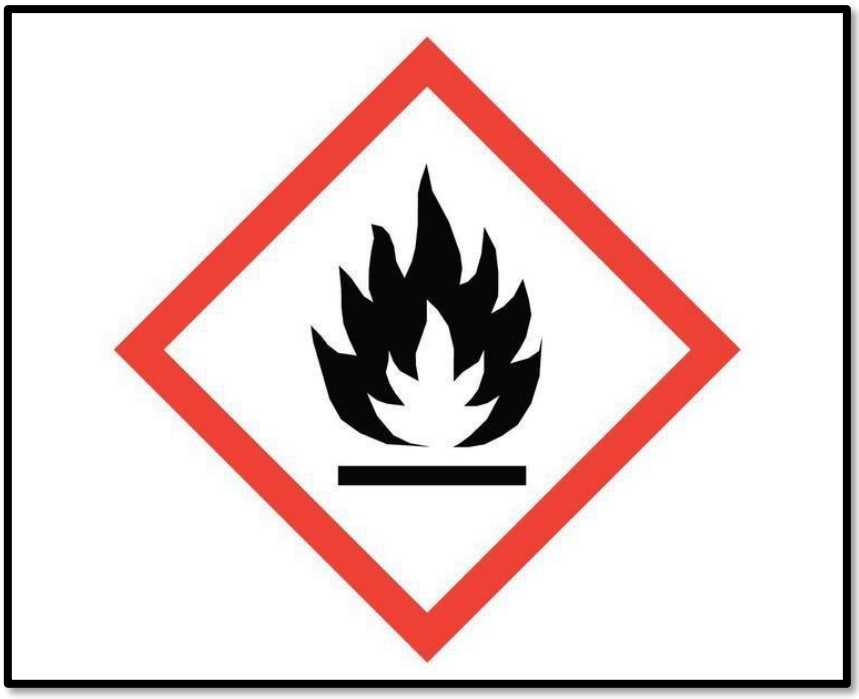
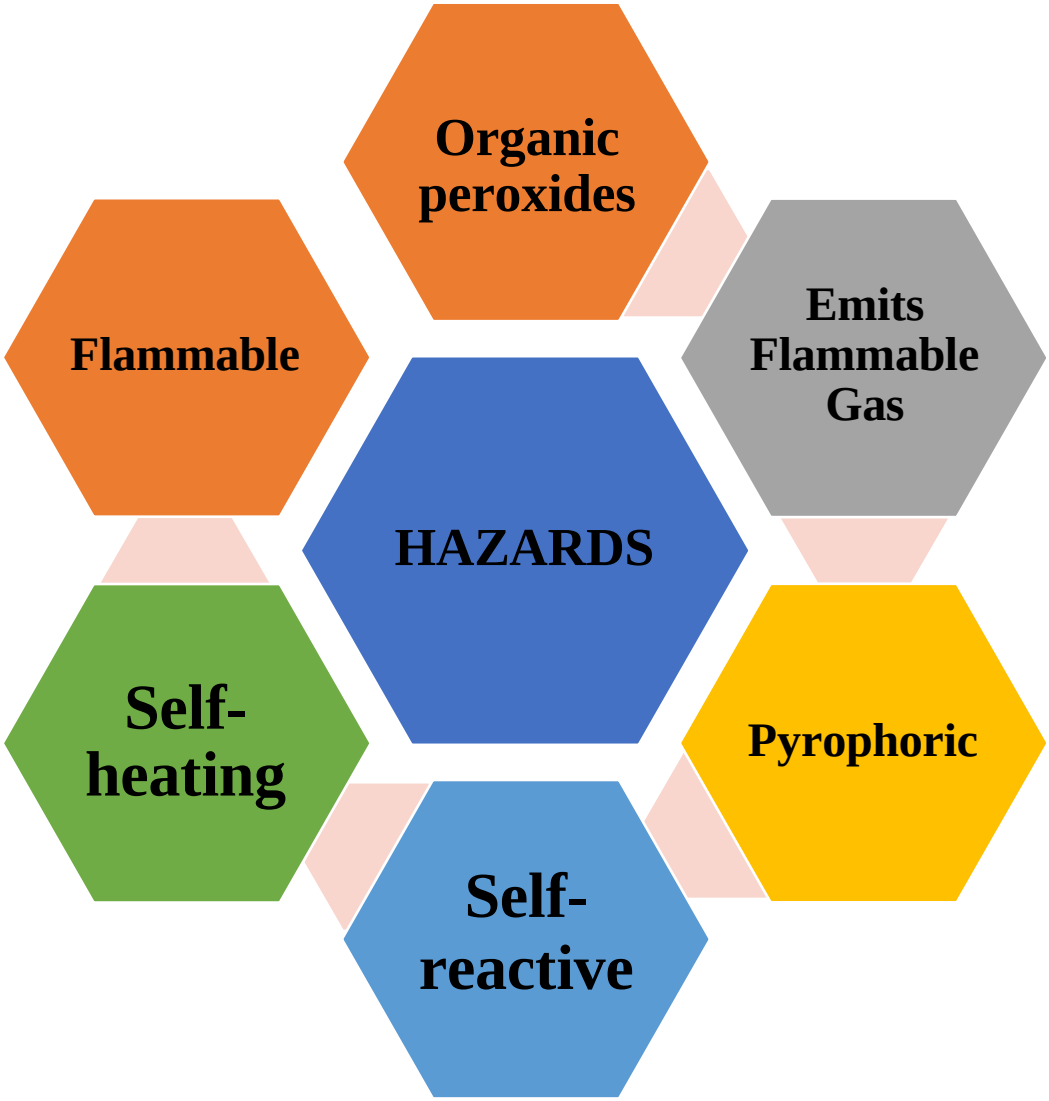
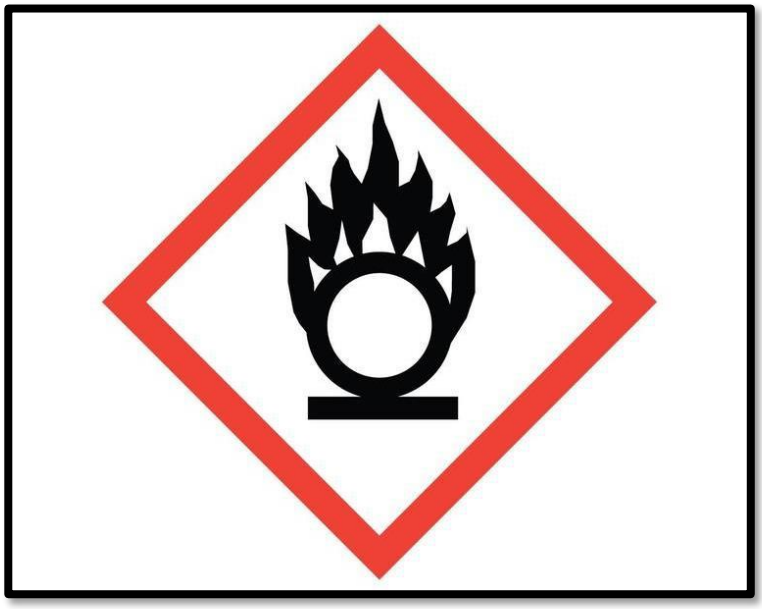
FLAME



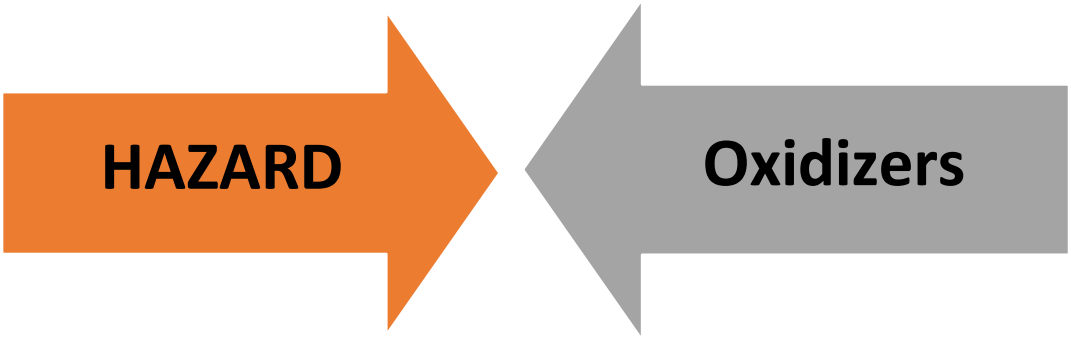
“These chemicals burn or can release gases that burn.”



FLAME OVER CIRCLE



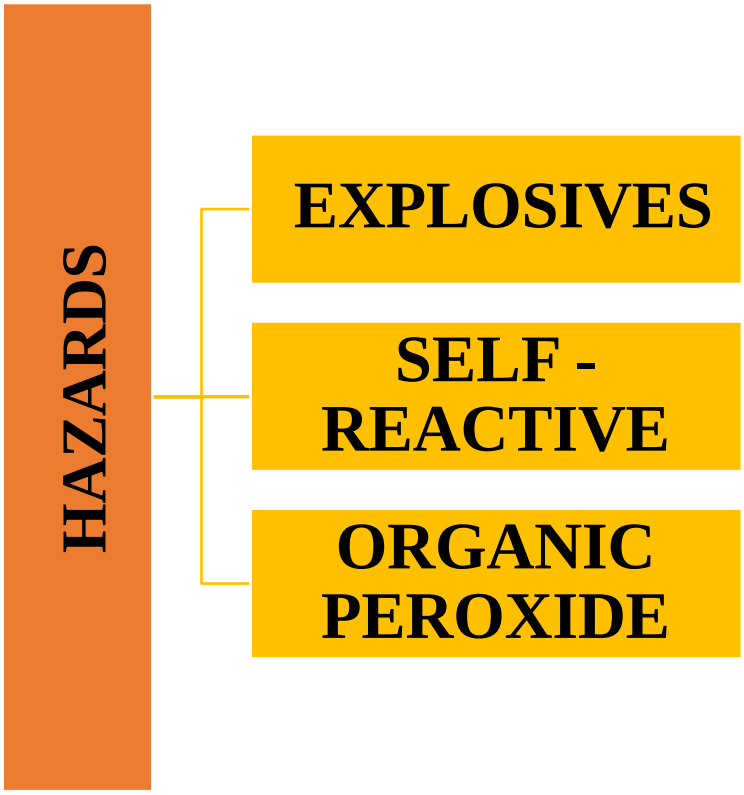
“These chemicals give off oxygen and can make a fire spread.”



“Oxidizers are hazardous materials that can increase the risk of fire or explosion.”

EXPLODING BOMB

“These chemicals can explode.”



GAS CYLINDER

“Gases and liquids under pressure can explode.”

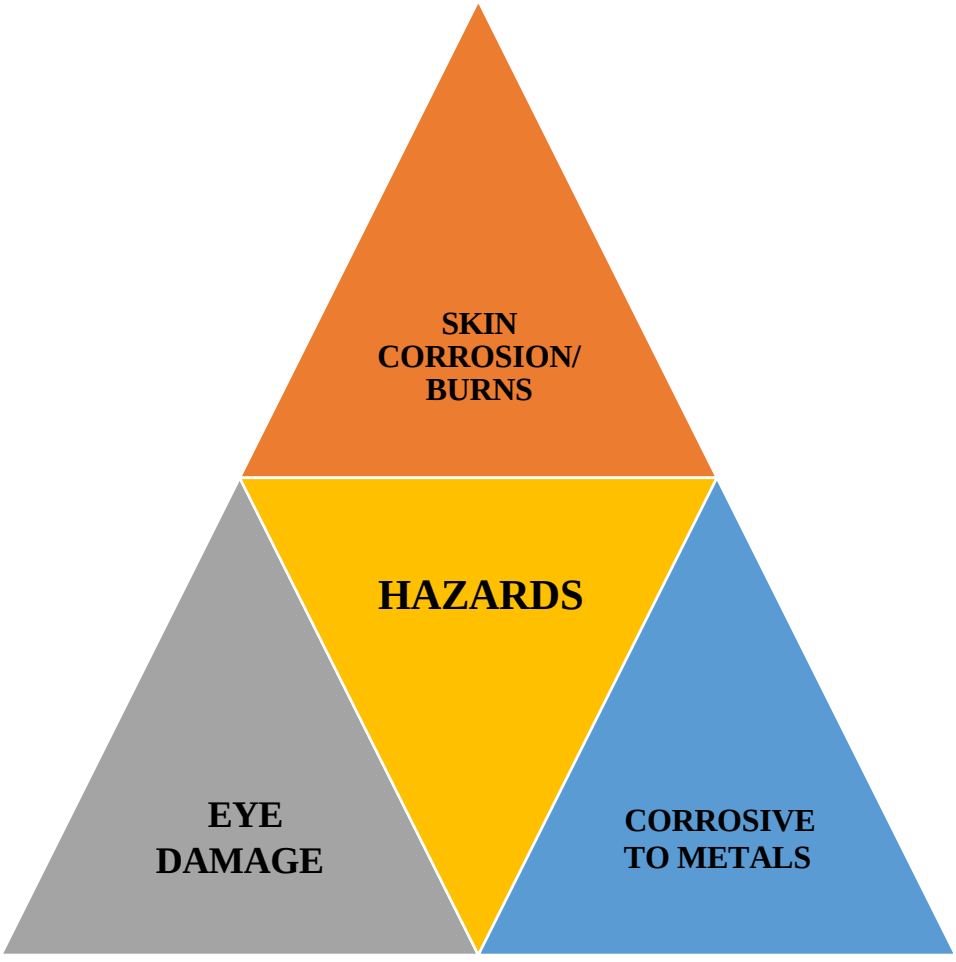
“This pictogram is used for both pressurized gases and liquefied gases such as liquid nitrogen.”

HAZARD → **GASES UNDER PRESSURE**

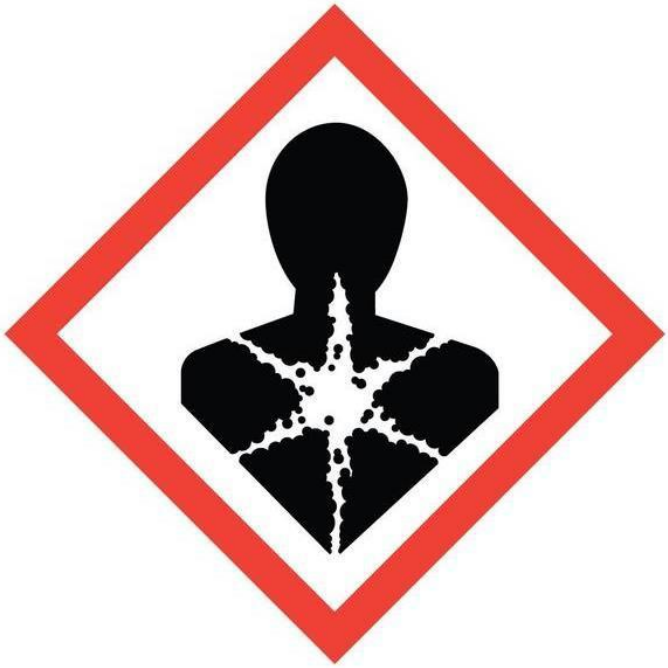
CORROSION

“These chemicals cause permanent damage to skin or eyes.”

“These chemicals destroy metals.”



HEALTH HAZARDS



“These chemicals cause serious health problems.”
“Some problems show up immediately, but some may show up much later.”

SKULL & CROSS-BONE

“These chemicals are poisons that quickly cause sickness or death.”

“A toxin may attack one or more parts of the body, such as the liver, kidneys, nerves, lungs, skin, eyes, or bone.”

HAZARD

ACUTE TOXICITY (FATAL OR TOXIC)

EXCLAMATION MARK

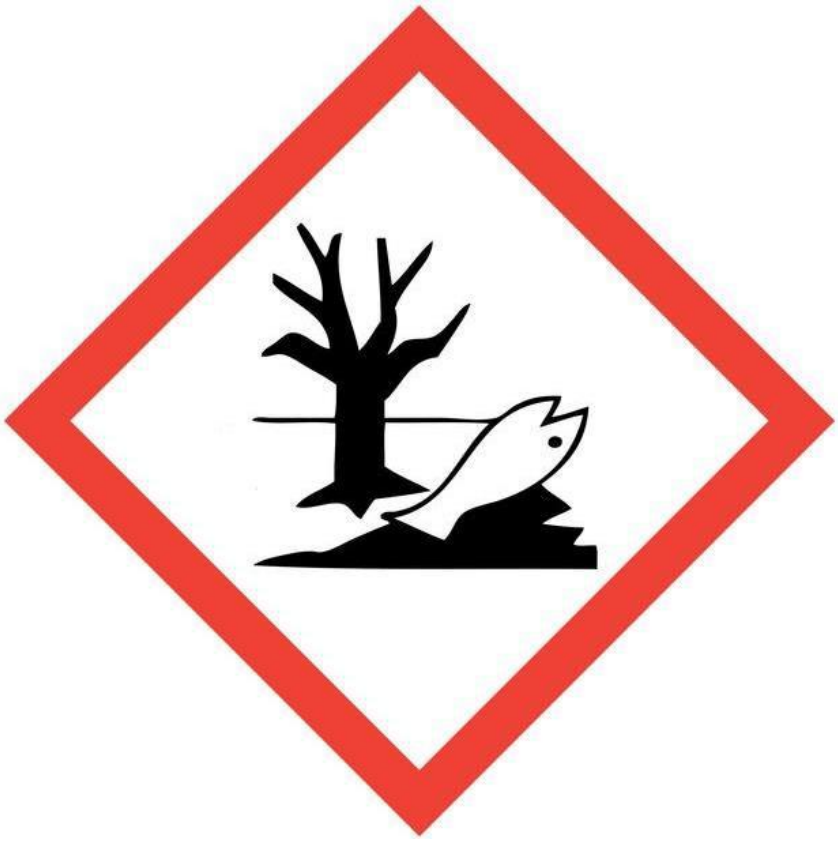
“These chemicals cause health problems. Usually less toxic than chemicals labelled with the Health Hazard or Skull and Cross-bone pictograms.”

“This pictogram is also used for chemicals that can destroy the ozone layer.”

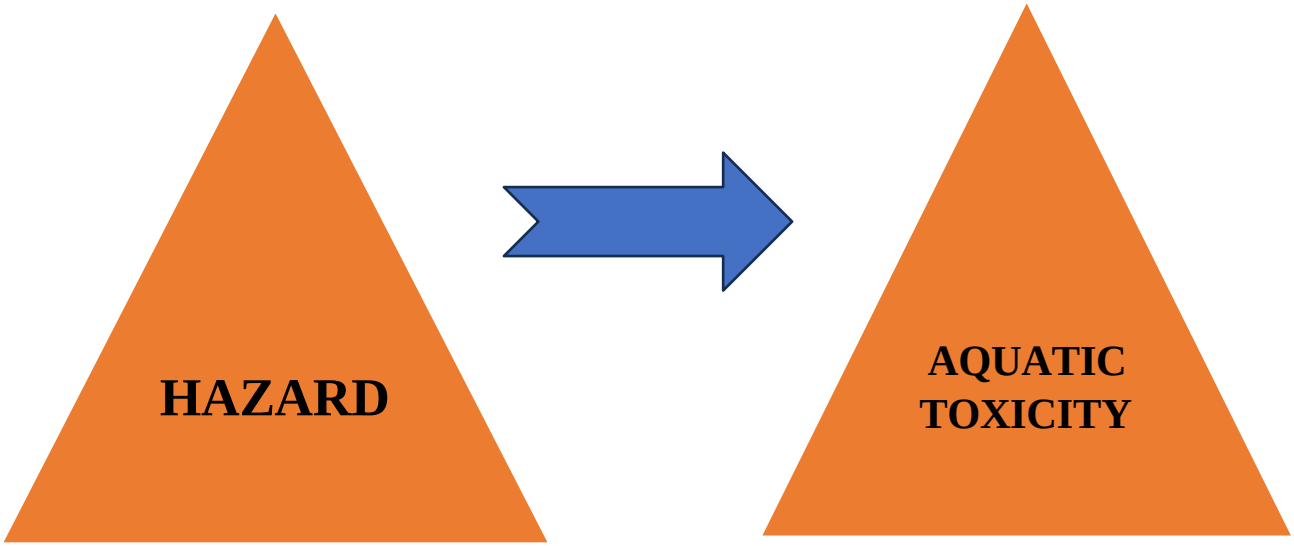
HAZARDS

- **Irritant (skin and eye)**
- **Skin Sensitizer**
- **Acute Toxicity (harmful)**
- **Hazardous to Ozone Layer**
- **Respiratory Tract Irritant**
- **Narcotic Effects**

ENVIRONMENT



“These chemicals are dangerous if they get into rivers, lakes or oceans.”



GHS Hazard Pictogram Codes (Globally Harmonized System)

Pictogram Hazard Category GHS Code (Hazard Class)

Explosive : GHS01 (Class 1: Explosives)

Flammable: GHS02 (Class 2, 3, 4: Flammable gases, liquids, solids)

Oxidizing: GHS03 (Class 5: Oxidizers and organic peroxides)

Gases Under Pressure: GHS04 (Class 2: Compressed, liquefied, or dissolved gases)

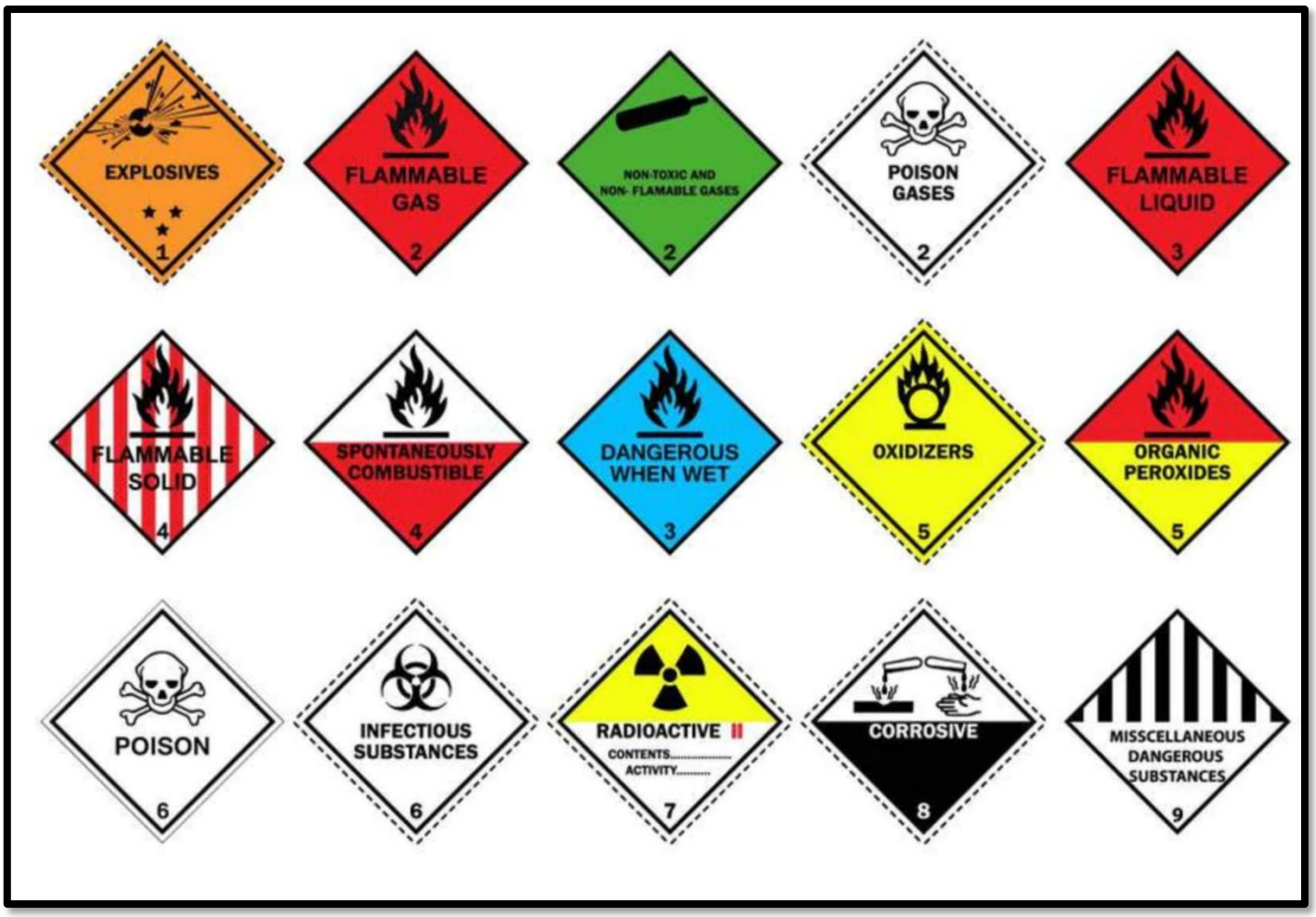
Corrosive: GHS05 (Class 8: Corrosive to skin, eyes, and metals)

Acute Toxicity: GHS06 (Class 6: Highly toxic substances)

Harmful / Irritant: GHS07 (Class 6: Irritants, sensitizers, acute toxicity)

Serious Health Hazard: GHS08 (Class 6: Carcinogens, mutagens, reproductive toxins)

Environmental Hazard: GHS09 (Class 9: Harmful to aquatic life)

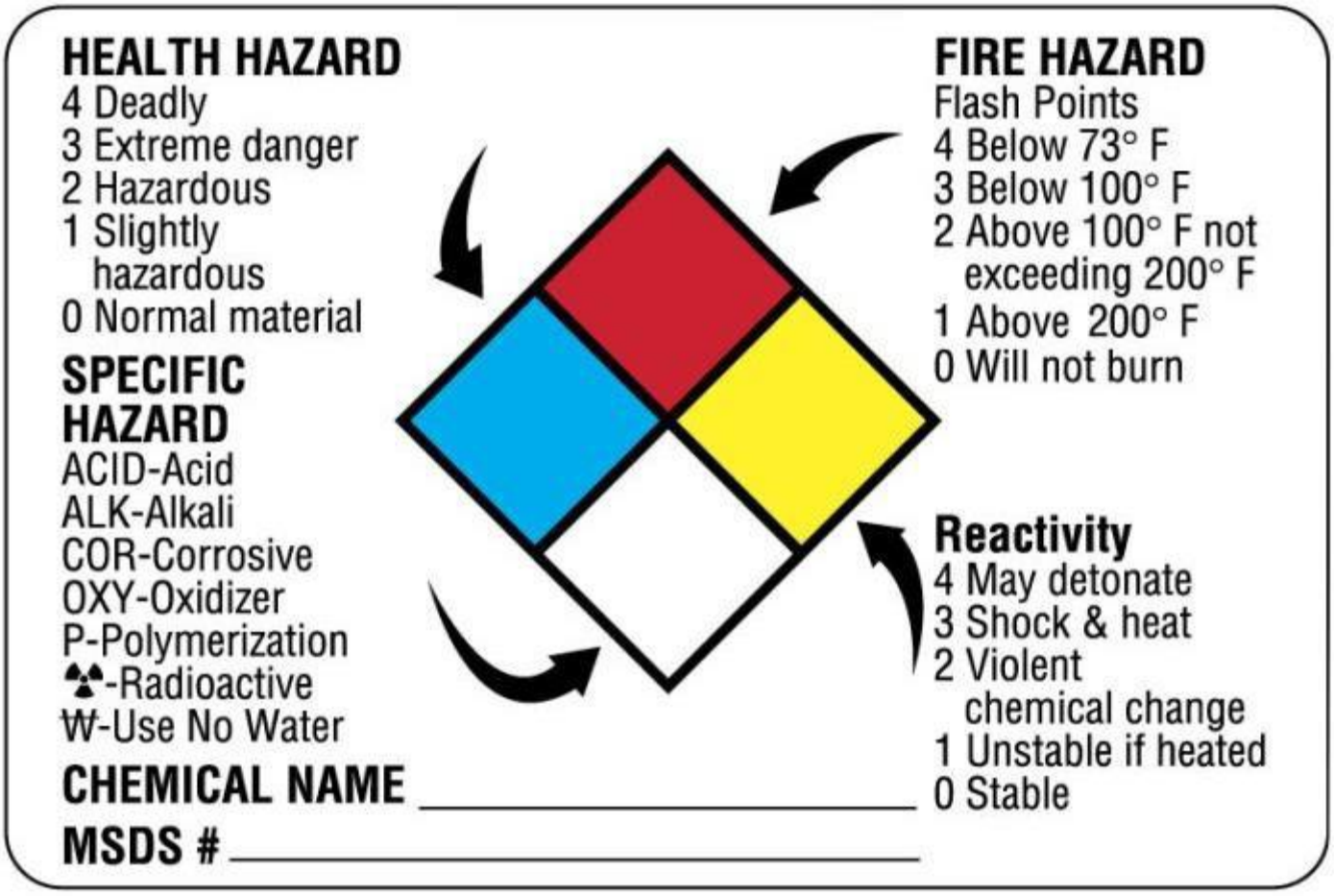


UN Hazard Class Codes (United Nations Transport Codes)

Class Code	Hazard Category	Description
Class 1	Explosives	Substances with explosion risk (e.g., TNT, fireworks).
Class 2	Gases	Flammable, toxic, or compressed gases (e.g., propane, chlorine).
Class 3	Flammable Liquids	Fuels, alcohols, and solvents (e.g., gasoline, ethanol).
Class 4	Flammable Solids	Easily combustible solids (e.g., sulfur, phosphorus).
Class 5	Oxidizing Agents & Peroxides	Oxygen-releasing substances (e.g., hydrogen peroxide).
Class 6	Toxic & Infectious Substances	Poisons and biohazards (e.g., cyanide, viruses).
Class 7	Radioactive Material	Nuclear and radiation hazards (e.g., uranium).
Class 8	Corrosives	Acidic and basic corrosive substances (e.g., sulfuric acid).
Class 9	Miscellaneous Dangerous Substances	Other hazardous materials (e.g., lithium batteries).

NFPA Hazard Codes (National Fire Protection Association)

Color	Hazard Type	Scale (0-4, Increasing Hazard)
Red	Flammability	0 (Non-flammable) → 4 (Highly flammable)
Blue	Health Hazard	0 (No hazard) → 4 (Deadly)
Yellow	Reactivity	0 (Stable) → 4 (Explosive)
White	Special Hazard	OX (Oxidizer), ACID, COR (Corrosive), W (Water Reactive)



"The National Fire Protection Association (NFPA) uses a color-coded diamond to identify the hazards of a material.

This system is called NFPA 704 and is also known as the NFPA Hazard Diamond."

ADR & IMDG Codes (Transport Regulations)

Code	Hazard Type	Transport Regulation
ADR 2.1	Flammable Gases	Road Transport
ADR 3	Flammable Liquids	Road Transport
IMDG 4.1	Flammable Solids	Maritime Transport
IMDG 8	Corrosives	Maritime Transport

"ADR and IMDG are regulations that govern the transport of dangerous goods by road and sea, respectively."

- **International Carriage of Dangerous Goods by Road**
- **International Maritime Dangerous Goods Transport Code**

Summary of Key Safety & Hazard Codes

GHS Codes (GHS01 - GHS09) → For labelling & classification

UN Codes (Class 1 - Class 9) → For transport & handling

NFPA Codes (0-4) → Quick hazard identification

ADR & IMDG Codes → For road & sea transportation

"Knowing the hazard symbols isn't an option—it's a necessity."

"EXCELL PURITY, ASSURE SAFETY"