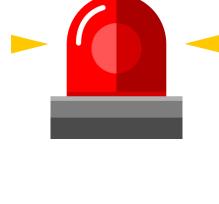


# MODULE 1

## HYDROGEN RISK HIERARCHY



### PIVOTAL OCCURRENCES



### RESPONSE TO THREATS



### PREVENTION

## PIVOTAL OCCURRENCES

The least favorable yet conceivable scenarios for which you must be prepared.

- "**Explosion**": Mitigating the impacts of an explosion (e.g., via specialized structures or vents).
- "**Fire**": Strategies for extinguishing hydrogen fires (specificity, absence of visible flame, elevated temperature).
- "**First Aid**": Protocols for administering first aid to individuals who are injured.
- "**Analysis**": Examination of incidents (deriving conclusions for future reference).

## RESPONSE TO THREATS

When prevention is inadequate, what matters is a prompt and efficient response.

- "**Alarming**": Instantaneous alerts (audible and visual) upon the detection of hydrogen.
- "**Evacuation**": Clearly defined evacuation procedures (designated routes, assembly points).
- "**Cut-off**": Automatic cessation of the hydrogen supply (safety systems).
- "**Fire extinguishers**": Ensure access to suitable fire extinguishing agents (when feasible and safe).

## PREVENTION

This constitutes the cornerstone of security—the essential element in mitigating risk prior to any incidents occurring.

- "**Detection**": Hydrogen sensors (continuous concentration monitoring).
- "**Ventilation**": Efficient ventilation (natural/mechanical – mitigates hydrogen accumulation).
- "**Design**": Secure design of installations (airtightness, suitable materials, grounding).
- "**Training**": Ongoing staff development (hazard recognition, protocols).