

# Safety in The Hydrogen Industry

## What Makes Hydrogen Dangerous?

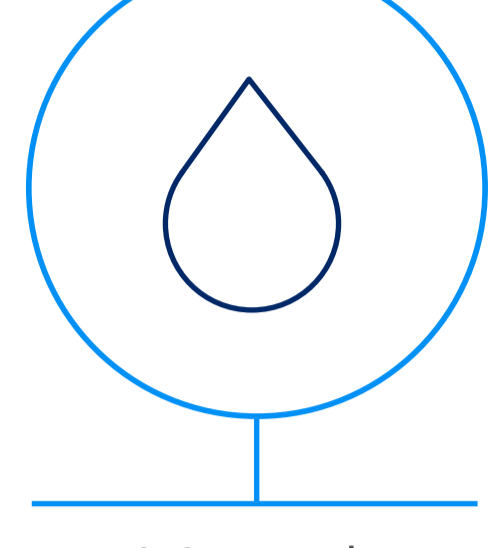
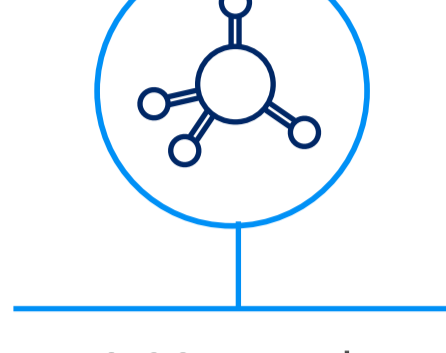
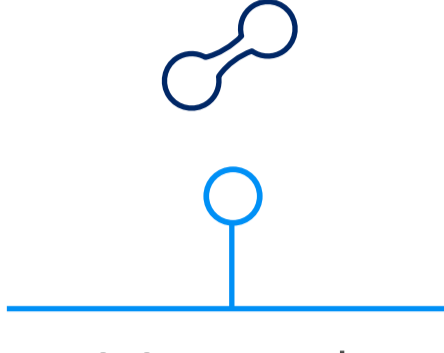
Hydrogen is **highly flammable** and can have a **suffocating effect** if it displaces oxygen.



A **little spark** is enough: Hydrogen needs only a **small amount** of energy to ignite.

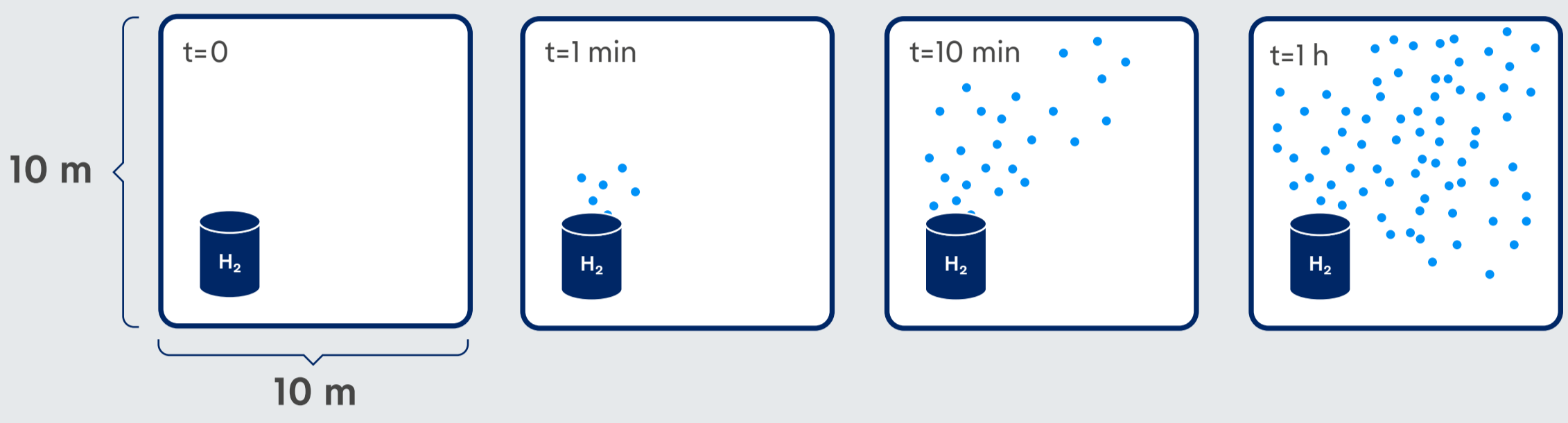


### Minimum energy that can ignite vapors



### Propagation of hydrogen in closed and ventilated spaces

In closed spaces, hydrogen's high diffusion rate can quickly create an explosive mixture when it combines with air.



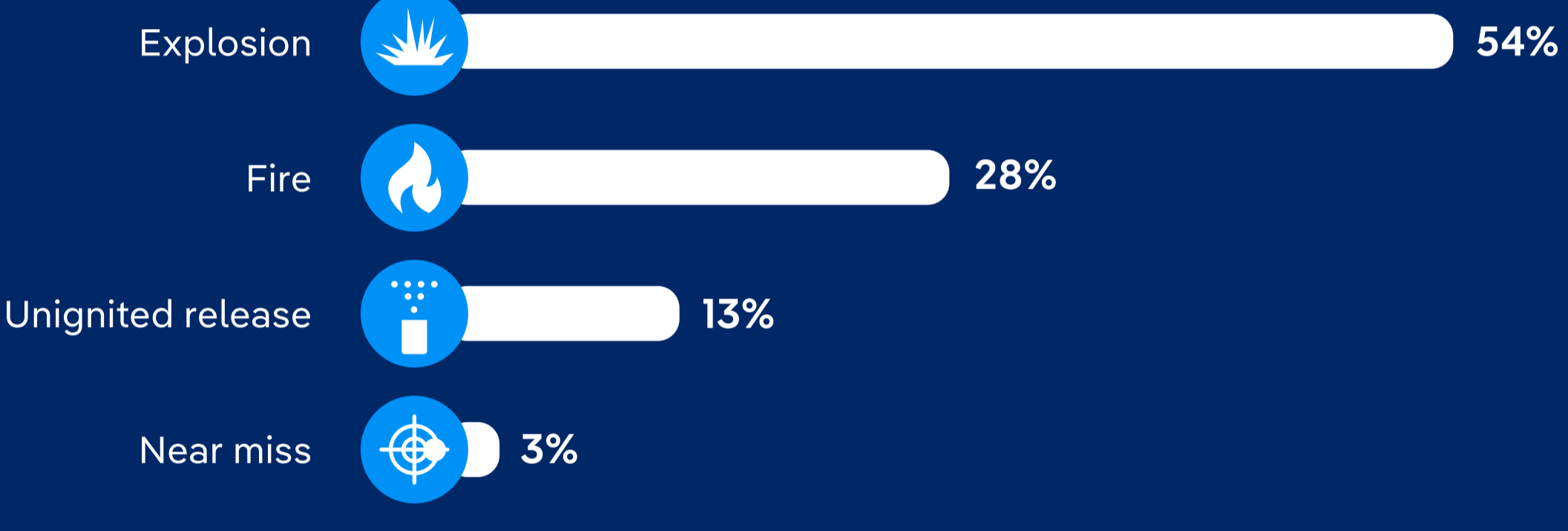
### Incidents often result in explosions

An analysis of the Hydrogen Incidents and Accidents Database (HIAD) looked at **485 reported** hydrogen-related events.

It shows that **more than half** of the incidents resulted in an explosion.



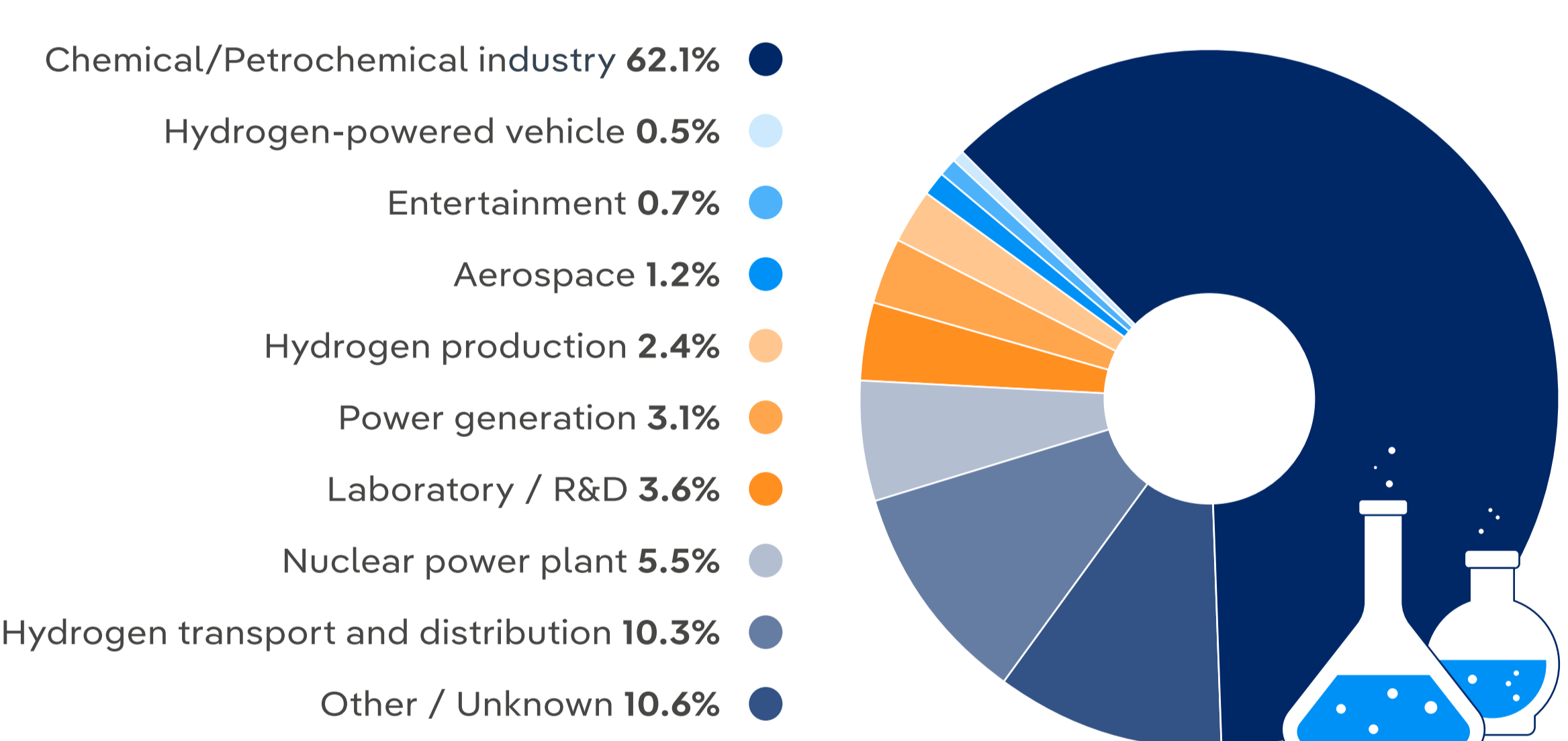
#### Consequences of undesired hydrogen-related incidents



### Chemical/Petrochemical industry most at risk

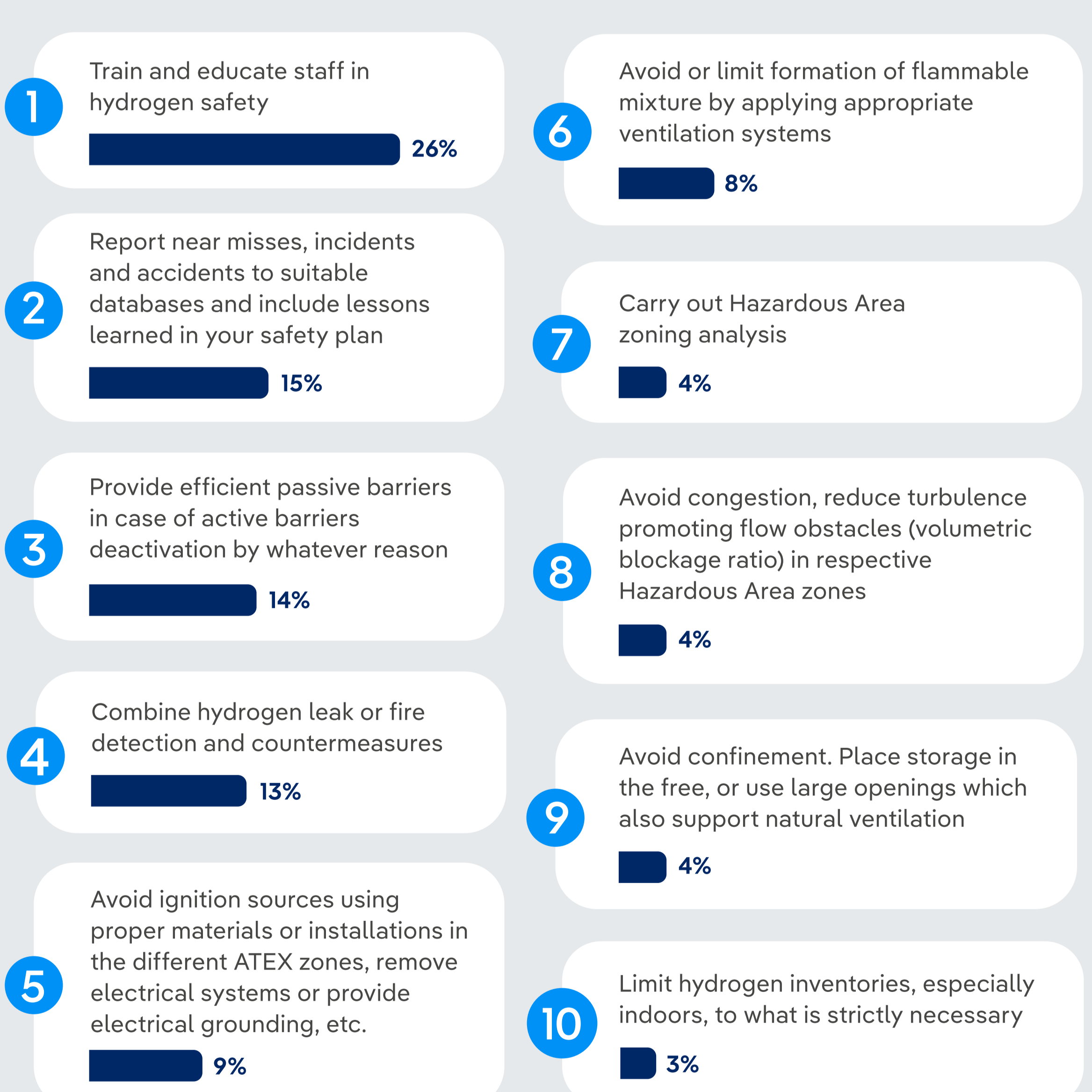
Nearly two thirds of reported events happened in the chemical and petrochemical industry.

#### Events by Industry



### How safety measures can contribute to prevent hydrogen incidents

When analysing the safety principles established by the European Hydrogen Safety Panel and the corresponding incidents, it appears that a lack of trained personnel was responsible for the highest number of events.



### Learn more about Hydrogen Safety

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