

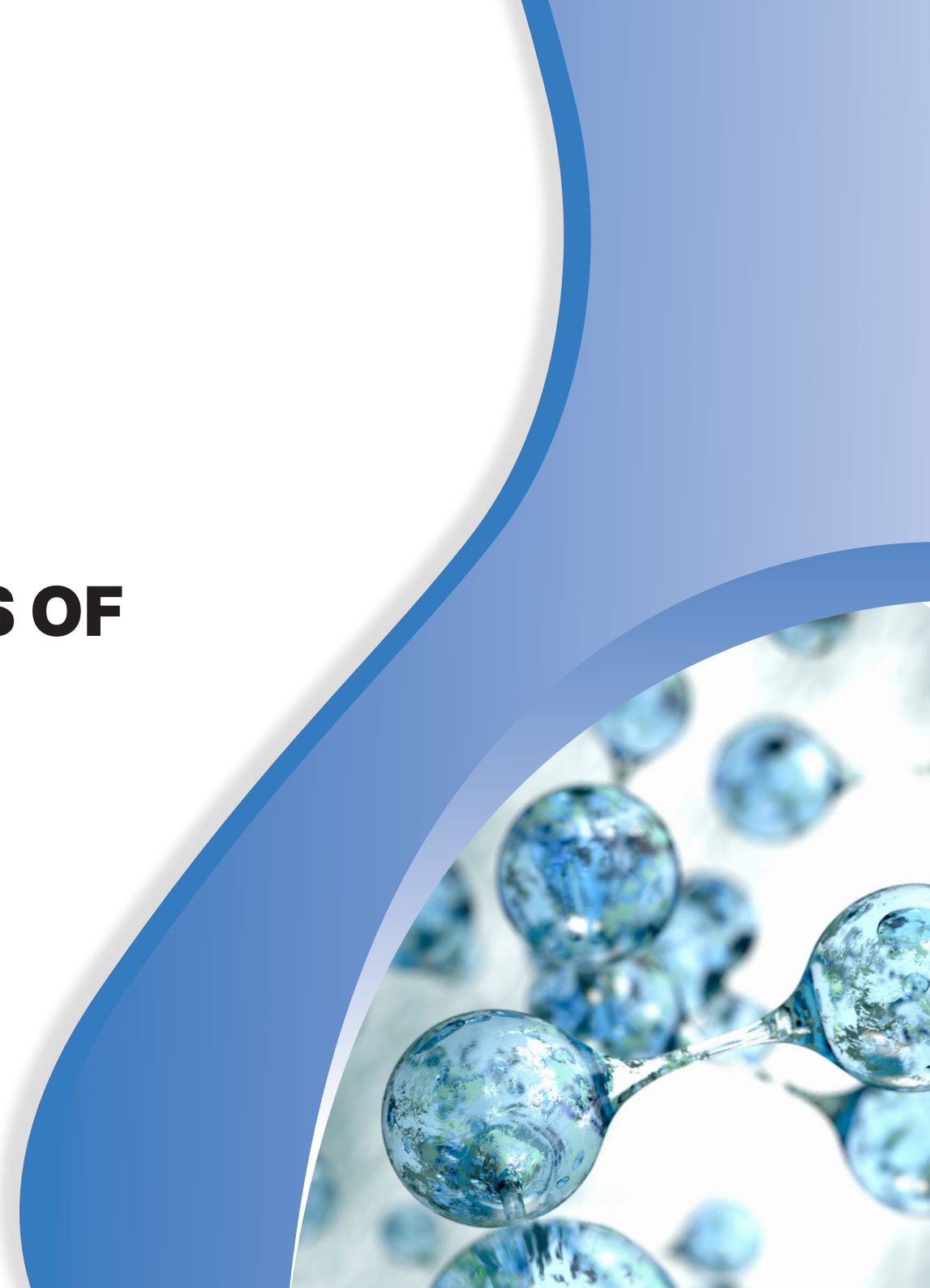


FACT SHEET N°1

THE HISTORY AND USES OF HYDROGEN

hydrogentoday.info

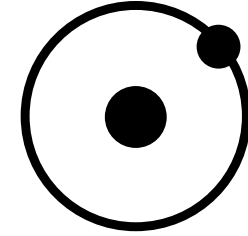
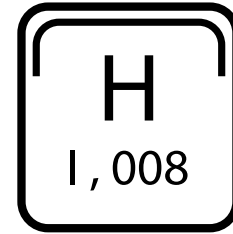
by :



WHAT IS HYDROGEN?

Representing 92% of the atoms in the universe (and 75% of its mass), **hydrogen** is the simplest and most common atom. It consists of a single proton and a single electron.

The **dihydrogen** molecule (H₂), is often referred to as **hydrogen**. Now that we have cleared that out, and for the sake of simplicity we will keep referring to it as **hydrogen**.



THE DISCOVERY OF HYDROGEN



XVIth Century

PARACELSE
saw the gas

ROBERT BOYLE
captured it
XVIIth Century



JOHN MAYOW
distinguished it
from air
Late XVIIth Century

XVIIth Century

THÉODORE
DE MAYERNE
noted its flammability



1766
HENRY CAVENDISH
studied the gas

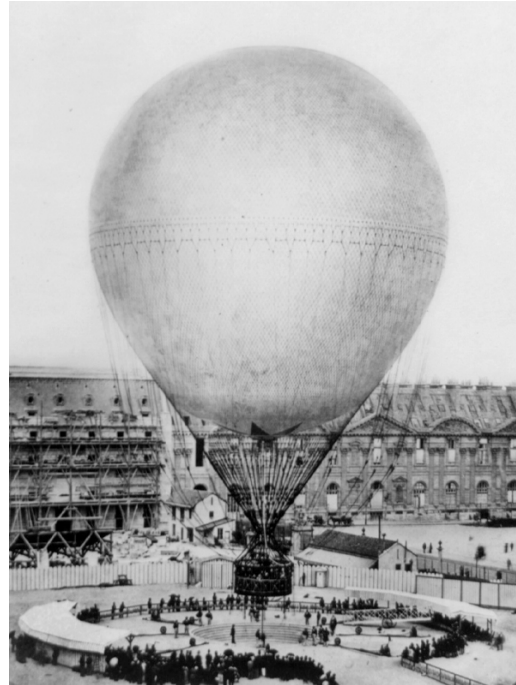
ANTOINE LAVOISIER
named it **hydrogen**
1783



EARLY USES OF HYDROGEN



1800:
Half of the lighting gas is **hydrogen**.

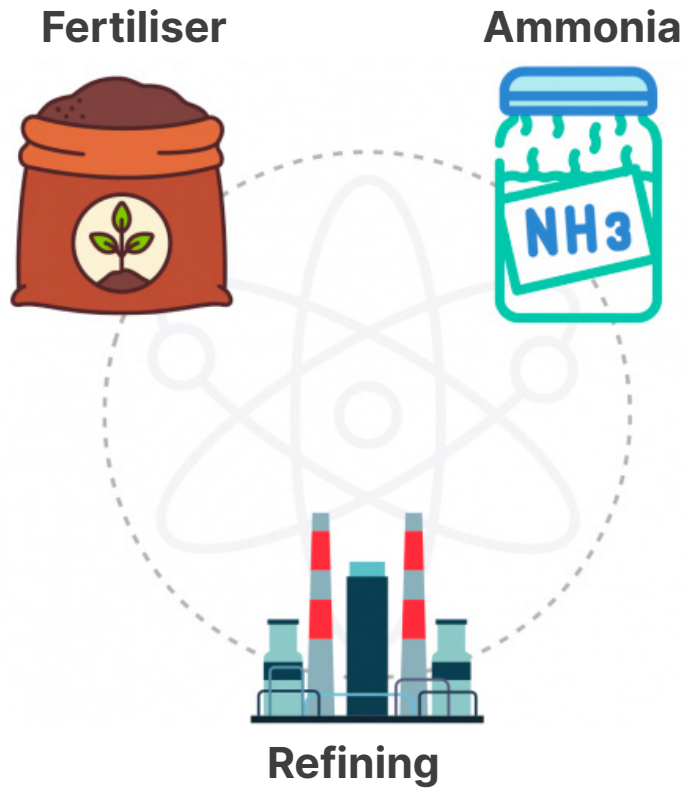


1878:
The inflatable balloon is filled with **hydrogen**.



1852-1937:
Hydrogen, which is 11 times lighter than air, was also used in airships... until the **6th of May 1937**, when the Hindenburg airship crashed in New Jersey.
This tragic accident* along with the growing popularity of aircraft led to the end of airships' use.

*This tragic accident wasn't caused by hydrogen.



HYDROGEN AS A RAW MATERIAL

Following **World War II**, new uses of **hydrogen** as a raw material in the industry were found (petrochemistry, steel, food-processing...)

HYDROGEN: ENERGY OF THE SPACE INDUSTRY

New applications for **hydrogen** in **space** were found:

- As a **fuel**, a mix of liquid **hydrogen** is used to throw space rockets, such as **Ariane 5** and **Saturn V**
- As a **reliable power supply system** in space missions (Apollo, Gemini, Space Shuttle) through the development of compact **fuel cells**



NEW APPLICATIONS FOR HYDROGEN

Hydrogen as an energy carrier?

Produced from zero-emission or renewable electricity:



Hydrogen can then be stored, transported and used in all kinds of energy applications, such as **fuel**.



FOR ONE PURPOSE



ZERO EMISSIONS

ZERO COMPROMISE



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