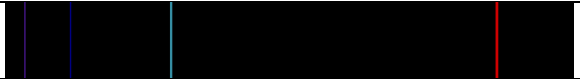


## 001 – HYDROGEN – H

<i>Fact File</i>	
<b>Chemical Element Name</b>	Hydrogen
<b>Chemical Symbol</b>	H
<b>Appearance</b>	Colourless Gas
<b>Standard Atomic Weight, <math>A_r</math></b>	[1.007 84, 1.008 11] amu
<b>Conventional Standard Atomic Weight, <math>A_r</math></b>	1.008 amu
<b>Atomic/Proton Number, <math>Z</math></b>	1
<b>Group</b>	Group 1
<b>Period</b>	Period 1
<b>Block</b>	s-block
<b>Electron Configuration/Ground Shells</b>	1s <sup>1</sup>
<b>Electrons Per Shell</b>	1
<b>Core Electrons</b>	0
<b>Valence Electrons</b>	1
<b>Phase/State of Matter at STP</b>	Gas
<b>Melting/Liquefaction Point</b>	14.01 K
<b>Boiling Point</b>	20.28 K
<b>Density at STP</b>	0.08988 g/L
<b>Ionic Charge(s)</b>	1+ / 1-
<b>Emission Spectrum</b>	
<b>Natural Occurrence</b>	Primordial
<b>Discovered By</b>	Henry Cavendish, 1766
<b>Named By</b>	Antoine Lavoisier, 1783

### *Discovery*

In 1671, Robert Boyle discovered and described the reaction between iron filings and dilute acids, which produces hydrogen gas; and in 1766 Henry Cavendish was the first to recognise that this gas is a discrete substance, naming it “inflammable air”. In 1781 he further discovered that the gas produced water when burned.


### *Name Origins*

Antoine-Laurent de Lavoisier named hydrogen in 1783 from the Greek ὕδρο- *hydro* meaning "water" and -γενής *genes* meaning "former" (literally “water-former”) when he and Pierre-Simon, marquis de Laplace reproduced Henry Cavendish’s findings that water is produced when hydrogen is burned.

### *Isotopes*

Hydrogen has three naturally occurring isotopes; <sup>1</sup>H (99.988 5%), <sup>2</sup>H (0.011 5%), and <sup>3</sup>H (trace). <sup>4</sup>H to <sup>7</sup>H have also been synthesised in laboratory conditions.

## Hazards

GHS pictograms	 GHS02
GHS Signal word	Danger
GHS hazard statements	H220
GHS precautionary statements	P202, P210, P271, P377, P381, P403
NFPA 704 (fire diamond)	