002 – HELIUM – HE

Fact File	
Appearance	Colourless gas, exhibiting a grey, cloudy glow (or reddish-orange if an especially high voltage is used) when placed in an electric field
Standard Atomic Weight, A_r	4.002 602(2) amu
Atomic/Proton Number, *Z*	2
Group	Group 18
Period	Period 1
Block	s-block
Electron Configuration/Ground Shells	$1s^2$
Electrons Per Shell	2
Core Electrons	2
Valence Electrons	0
Phase/State of Matter at STP	Gas
Melting/Liquefaction Point	0 K (No solid state)
Boiling Point	4.22 K
Density at STP	0.1786 g/L
Ionic Charge(s)	0 (Does not bond)
Emission Spectrum	
Natural Occurrence	Primordial
Discovered By	Jules Janssen and Norman Lockyer, 1868
Named By	Norman Lockyer and Edward Frankland, 1868

Discovery

On August 18, 1868, helium was first observed as a bright yellow line with a wavelength of 587.47 nm in the spectrum of the chromosphere of the sun. It was detected by Pierre Jules César Janssen during a total solar eclipse in Guntur, India and was initially assumed to be sodium.

Name Origins

Sir Joseph Norman Lockyer and Sir Edward Frankland named the element with the Greek word for the Sun, ἥλιος (helios) because helium was first observed in the sun's chromosphere.

Isotopes

Helium has two naturally occurring isotopes; ^{3}He (0.000 134%) and ^{4}He (99.999 866%). ^{2}He and ^{5}He to ^{10}He have also been synthesised in laboratory conditions.

Hazards	
GHS pictograms	 GHS04
GHS Signal word	Warning
GHS hazard statements	H280
GHS precautionary statements	P410+P403
NFPA 704 (fire diamond)