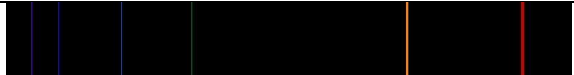


003 – LITHIUM – Li

<i>Fact File</i>	
Chemical Element Name	Lithium
Chemical Symbol	Li
Appearance	Silvery-white metal
Standard Atomic Weight, A_r	[6.938, 6.997] amu
Conventional Standard Atomic Weight, A_r	6.94 amu
Atomic/Proton Number, Z	3
Group	Group 1
Period	Period 2
Block	s-block
Electron Configuration/Ground Shells	[He] 2s ¹
Electrons Per Shell	2, 1
Core Electrons	2
Valence Electrons	1
Phase/State of Matter at STP	Solid
Melting/Liquefaction Point	453.69 K
Boiling Point	1615 K
Density at STP	0.534 g/L
Ionic Charge(s)	1+
Emission Spectrum	
Natural Occurrence	Primordial
Discovered By	Johan August Arfwedson, 1817
Named By	Jöns Jakob Berzelius, 1817

Discovery


Petalite (LiAlSi₄O₁₀) was discovered in 1800 by José Bonifácio de Andrada e Silva in a mine on the island of Utö, Sweden; and in 1817 Johan August Arfwedson, working alongside Baron Jöns Jacob Berzelius, detected the presence of a new element while analysing petalite ore.

Name Origins

Baron Jöns Jacob Berzelius gave the lithium-based alkaline compound similar to those of sodium and potassium that he and Johan August Arfwedson created when studying Petalite (LiAlSi₄O₁₀) the name "*lithion/lithina*", from the Greek word λιθος (transliterated as *lithos*, meaning "stone"), to reflect its discovery in a solid mineral, as opposed to potassium, which had been discovered in plant ashes, and sodium, which was known partly for its high abundance in animal blood. He named the metal inside the material "lithium".

Isotopes

Lithium has two naturally occurring isotopes; ${}^6\text{Li}$ (7.59%) and ${}^7\text{Li}$ (92.41%). ${}^3\text{Li}$ to ${}^5\text{Li}$ and ${}^8\text{Li}$ to ${}^{13}\text{Li}$ have also been synthesised in laboratory conditions. In addition, ${}^6\text{Li}$ and ${}^{10}\text{Li}$ can be excited (${}^6\text{mLi}$: 3562.88 keV, ${}^{10\text{m}1}\text{Li}$: 200 keV, ${}^{10\text{m}2}\text{Li}$: 480 keV).

Hazards	
GHS pictograms	 GHS02, GHS05
GHS Signal word	Danger
GHS hazard statements	H260, H314
GHS precautionary statements	P223, P231+P232, P280, P305+P35+P338, P370+P378, P422
NFPA 704 (fire diamond)	