

Helium Element

Helium (symbol He, atomic number 2) is a colorless, odorless, tasteless, non-toxic gas in the noble gas group with the lowest boiling and melting points.

Overview

- Latin name: Helium - ['hi:liəm']
- English name: Helium - ['hi:liəm']
- Year discovered: 1868
- CAS Number: CAS7440-59-7
- Electron shell: K2-LO-MO-NO-OO-PO-QO-RO

Properties

- Atomic number: 2
- Atomic weight (Relative atomic mass): 4.00260128098301 (g/mol)
- Density: 0.0001785 (g/cm³)
- Melting point: -273.15°C = -459.67°F = 0.0K
- Boiling point: -268.928°C = -452.07°F = 4.22K
- Valence electrons: 0
- Block: s - block
- Period: 1
- Group: VIIIA
- Phase : gas
- Electron configuration: 1s²
- The ionization potential of an atom: 24.547 (eV)
- Atomic radius: 31 (pm)
- Covalent radius: 37 (pm)

- Van der Waals radius: 140 (pm)
- Magnetic type: Diamagnetism
- Volume magnetic susceptibility: $-1.05 \cdot 10^{-9}$
- Mass magnetic susceptibility: $-5.9 \cdot 10^{-9}$
- Molar magnetic susceptibility: $-2.36 \cdot 10^{-11}$ (m³/mol)
- Electron affinity: -48.0 kJ/mole

Prevalence

Helium is prevalent in different amounts across the universe, the sun, oceans, and Earth's crust.

- In the universe, it is present at 23.0%, while the sun contains 27.1% helium.
- In comparison, oceans have a very low concentration of helium at $7.2 \times 10^{-8}\%$, and
- Earth's crust contains $8.0 \times 10^{-7}\%$ helium.