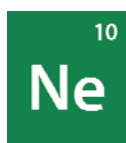


Stable isotopes of neon available from ISOFLEX

Isotope	Z(p)	N(n)	Atomic Mass	Natural Abundance	Enrichment Level	Chemical Form
Ne-20	10	10	19.992440176	90.48%	99.995%	Gas
Ne-21	10	11	20.99384674	0.27%	70.27-90.00%	Gas
Ne-22	10	12	21.9913855	9.25%	99.95%	Gas



Neon was discovered in 1898 by Sir William Ramsay and Morris Travers, who also discovered krypton and xenon. It takes its name from the Greek word *neon*, which means “new.”

Neon is a colorless, odorless, tasteless gas that forms face-centered cubic crystals. A zero-valent element with a highly stable octet configuration, neon is inert to practically all chemicals. Neon forms an unstable hydrate at low temperatures under high pressure. It does ionize, however, under high vacuum (as in an electric discharge tube), forming some ions.

The most important use of this gas is in “neon” lights and fluorescent signs for advertisements. Contained in glow discharge lamps or high-voltage discharge tubes at low pressure, neon emits red light. In the presence of mercury vapors, the color of the glow turns blue. Neon is also used in scintillation counters, neutron fission counters, proportional counters, and ionization chambers for detection of charged particles.

Properties of Neon

Name	Neon
Symbol	Ne
Atomic number	10
Atomic weight	20.179
Standard state	Gas at 298 °K
CAS Registry ID	7440-01-9
Group in periodic table	18
Group name	Noble gas
Period in periodic table	2
Block in periodic table	p-block

Properties of Neon (continued)

Color	Colorless
Classification	Nonmetallic
Melting point	-248.59 °C
Boiling point	-246.08 °C
Thermal conductivity	0.0491 W/(m·K)
Heat of vaporization	1.75 kJ·mol ⁻¹
Heat of fusion	0.34 kJ·mol ⁻¹
Density of gas	1.444 g/cm ³
Electron configuration	[He]2s ² 2p ⁶
Atomic radius	0.71 Å
Oxidation state	0
Critical temperature	-228.75 °C
Critical pressure	26.9 atm
Solubility in water	10.5 mL/L at 20 °C