



>>Entry Name: Neon

CAS Registry Number: 7440-01-9

Related CAS Registry Numbers(s): 12185-05-6 12185-06-7 14041-55-5 14041-56-6 14041-57-7 14158-25-9 14175-48-5 14175-50-9 14782-23-1 14782-26-4 15721-59-2
32218-07-8 37217-10-0 53280-38-9
Ne

Molecular Formula: Ne

Molecular Weight: 20.18

Accurate Mass: 19.992435

Percentage Composition: Ne 100.00%

3 are natural (^{20}Ne , ^{21}Ne , ^{22}Ne). Abundance: 18 ppm (by vol.) in atm. Ccp struct. in solid state

Source/Synthesis: Obt. by fractionation of liq. air

Use/Importance: Gives intense discharge colour and used in advertising signs and other electrical uses. Used in cryogenic refrigerant

Physical Description: Colourless, odourless, tasteless, monatomic, non-toxic gas. Chemically inert except towards F_2

Melting Point: Mp -248.7°

Boiling Point: Bp -246°

Solubility: Sol. H_2O ($10.5 \text{ cm}^3 \text{ kg}^{-1}$)

Other Data: Forms clathrate compds. with phenols, and possibly hydrates

Aldrich: 29555-8

>>Variant: Neon 18

CAS Registry Number: 30955-14-7

Source/Synthesis: Prod. from O (He, n), or ^{19}F ($\text{p}, 2\text{n}$)

Other Data: $I = +0$. Decays by orbital electron capture or $\beta^{(+)}$ emission to ^{18}F

>>Variant: Neon 19

CAS Registry Number: 14981-57-8

Source/Synthesis: Prod. from F (p, n)

Other Data: $I = +\frac{1}{2}$; $\mu = -1.885 \mu_{\text{N}}$. Decays by orbital electron capture or $\beta^{(+)}$ emission to ^{19}F

>>Variant: Neon 20

CAS Registry Number: 13981-34-5

Other Data: $I = +0$; $\mu = +0 \mu_{\text{N}}$.

>>Variant: Neon 21

CAS Registry Number: 13981-35-6

Other Data: $I = +\frac{3}{2}$; $\mu = +0.661796 \mu_{\text{N}}$. Nmr relative sensitivity ($^1\text{H}=1.00$) 2.5×10^{-3} ; receptivity ($^{13}\text{C}=1.00$) 0.0359

>>Variant: Neon 22

CAS Registry Number: 13886-72-1

Other Data: $I = +0$; $\mu = 0 \mu_{\text{N}}$

>>Variant: Neon 23

CAS Registry Number: 14378-20-2

Source/Synthesis: Prod. from Ne (n, γ), Ne (d, p), or ^{23}Na (n, p)

Other Data: $I = +\frac{5}{2}$; $\mu = -1.08 \mu_{\text{N}}$. Decays by $\beta^{(-)}$ emission to ^{23}Na

>>Variant: Neon 24

CAS Registry Number: 20508-69-4