



>>Entry Name: Krypton

CAS Registry Number: 7439-90-9

Related CAS Registry Numbers(s): 12596-40-6 14995-62-1 16479-65-5 16915-28-9 18469-91-5 37217-04-2 54603-15-5 97068-29-6 105027-71-2
Kr

Molecular Formula: Kr

Molecular Weight: 83.8

Accurate Mass: 83.911507

Percentage Composition: Kr 100.00%

mass range 74 to 94 of which 6 are natural. Fcc struct. with metastable hcp struct. in solid state

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

Use/Importance: Used in fluorescent lights and flash lamps

Physical Description: Colourless odourless monatomic, non-toxic gas, reacting only with fluorine and perhaps chlorine

Melting Point: Mp -156.6°

Boiling Point: Bp -152.9°

Solubility: Sol. H₂O (59.4 cm³ kg⁻¹)

Other Data: Forms clathrates of type Kr.3ROH (R = aryl) and hydrates Kr.5.75H₂O and 2Kr.X.17H₂O (X = Me₂CO, CH₂Cl₂, CHCl₃, CCl₄ etc.). Forms complex with HCl

>>Variant: Krypton 76

CAS Registry Number: 28522-17-0

Source/Synthesis: Prod. from Br (p,4n), or ⁷⁴Se (α ,2n)

Other Data: $I = +0$. Decays by orbital electron capture or $\beta^{(+)}$ emission to ⁷⁶Br

>>Variant: Krypton 77

CAS Registry Number: 14983-72-3

Source/Synthesis: Prod. from Br (p,3n), or ⁷⁴Se (α ,n)

Other Data: $I = +5/2$. Decays by orbital electron capture or $\beta^{(+)}$ emission to ⁷⁷Br

>>Variant: Krypton 78

CAS Registry Number: 33580-79-9

Other Data: $I = +0$

>>Variant: Krypton 79

CAS Registry Number: 15478-11-2

Source/Synthesis: Prod. from Br (p,n), Br (d,2n), or ⁷⁸Kr (n, γ)

Other Data: $I = -1/2$. Decays by orbital electron capture, or $\beta^{(+)}$ emission to ⁷⁹Br

>>Variant: Krypton 80

CAS Registry Number: 26110-67-8

Other Data: $I = +0$

>>Variant: Krypton 81

Source/Synthesis: Prod. from Kr (n, γ)

Use/Importance: Used for radiometric dating

Other Data: $I = +7/2$. Decays by orbital electron capture to ⁸¹Br

>>Variant: Krypton 81m

Source/Synthesis: Prod. by proton bombardment of Zr. Daughter of ⁸¹Rb

Use/Importance: Used in diagnostic nuclear medicine

Other Data: $I = -1/2$. Decays by isomeric transition to ⁸¹Kr