



>>Entry Name: Dicyanamide, 8Cl

Synonym(s): Cyanocyanamide, 12Cl, 9Cl. Dicyanimide. Imidodicarbonitrile

CAS Registry Number: 504-66-5

Related CAS Registry Numbers(s): 17997-40-9

NH(CN)₂

Molecular Formula: C₂HN₃

Molecular Weight: 67.05

Accurate Mass: 67.017047

Percentage Composition: C 35.83%; H 1.50%; N 62.67%

Other Data: Free compd. cannot be isol. in solid state. Aq. soln. unstable and shows powerful acidic props.

>>Derivative: NH₄ salt

CAS Registry Number: 14265-42-0

Physical Description: Needles

Melting Point: Mp 116°

>>Derivative: Na salt

Synonym(s): Sodium dicyanamide. Cyanocyanamide sodium salt, 9Cl. Dicyanamide sodium salt, 8Cl

CAS Registry Number: 1934-75-4

Source/Synthesis: Synth. from solid BrCN + NaNHCN aq. Manuf. by reaction of M[N(CN)₂]₂ (M = Ca, Zn, Cu) with aq. solns. of NaOH, Na₂CO₃ or Na₃PO₄

Use/Importance: Commercially available. Widely used reagent in org. chem.

Physical Description: Cryst. Relatively stable but dec. on prolonged heating to NaCN, (CN)₂ and N₂

Melting Point: Mp 315°

Solubility: V. sol. H₂O (27g per 100 cm³ at 30°); insol. EtOH

Hazard & Toxicity: Irritant

Aldrich: 17832-2

Fluka: 71493

>>Derivative: Cs salt

CAS Registry Number: 137757-04-1

Molecular Formula: C₂CsN₃

Molecular Weight: 198.947

Accurate Mass: 198.914651

Percentage Composition: C 12.07%; Cs 66.80%; N 21.12%

Source/Synthesis: Synth. from NH(CN)₂ + Cs₂CO₃

Physical Description: Cryst.

>>Derivative: N-Me

CAS Registry Number: 35840-17-6

Molecular Formula: C₃H₃N₃

Molecular Weight: 81.077

Accurate Mass: 81.032697

Percentage Composition: C 44.44%; H 3.73%; N 51.83%

Physical Description: Cryst.

Melting Point: Mp 221°

References:

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Burdick, W.L., *J.A.C.S.*, 1925, **47**, 1486

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Kuhn, M. *et al.*, *Chem. Ber.*, 1961, **94**, 3010, (*ir, synth, Na salt*)

Takimoto, M., *Nippon Kagaku Zasshi*, 1964, **85**, 159; *CA*, **61**, 2937h, (*uv, Na salt*)

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Turner, R.W., *Synthesis*, 1975, 332

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Sigma-Aldrich Library of Chemical Safety Data, 1988, **2**, 3139C, (*haz, Na salt*)

Starynowicz, P., *Acta Cryst. C*, 1991, **47**, 2198, (*synth, cryst struct, Cs salt*)