



>>Entry Name: Hydrazoic acid, 11Cl

Synonym(s): Hydrogen azide. Hydronitric acid. Triazoic acid

CAS Registry Number: 7782-79-8

Related CAS Registry Numbers(s): 14343-69-2

HN=N=N (C₅)

Molecular Formula: HN₃

Molecular Weight: 43.028

Accurate Mass: 43.017047

Percentage Composition: H 2.34%; N 97.66%

Source/Synthesis: Synth. from NaN₃ + H₂SO₄

Use/Importance: Used industrially in prep. of heavy metal azides for shell detonators

Physical Description: Colourless liq. Relatively safe as a conc. aq. soln.

Melting Point: Mp -80°

Boiling Point: Bp 37°

Solubility: Sol. H₂O, Et₂O

pK_a Value: pK_a 4.7

Hazard & Toxicity: Highly explosive when pure, toxic, irritant

>>Derivative: NH₄ salt

Synonym(s): Ammonium azide

CAS Registry Number: 12164-94-2

Molecular Formula: H₄N₄

Molecular Weight: 60.058

Accurate Mass: 60.043596

Percentage Composition: H 6.71%; N 93.29%

Source/Synthesis: Synth. from NaN₃ + (NH₄)₂SO₄ in DMF

Physical Description: Anhyd. white cryst. from aq. soln.

Boiling Point: Subl. 133°

Solubility: V. sol. H₂O; sol. MeOH, EtOH; sl. sol. Et₂O, C₆H₆

Hazard & Toxicity: Although one of the more stable azides, it can be detonated with extreme violence

>>Derivative: Deutero compd.

Synonym(s): Hydrazoic acid-*d*. Deuterohydrazoic acid

CAS Registry Number: 14989-19-6

Molecular Formula: DN₃

Molecular Weight: 44.034

Source/Synthesis: Synth. from NaN₃ + D₃PO₄

>>Derivative: Na salt

>>Derivative: Rb salt

>>Derivative: Cs salt

>>Derivative: Ba salt

References:

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Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **1**, 456, (*synth*)

Bendtsen, J., *J. Raman Spectrosc.*, 1977, **6**, 306; 1984, **15**, 113, (*synth, ir, Raman*)

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