



>>Entry Name: Hydrazine

ENTRY UNDER REVIEW

Synonym(s): Diazane

CAS Registry Number: 302-01-2

Related CAS Registry Numbers(s): 7803-57-8 13255-48-6 18500-32-8

$\text{H}_2\text{N}-\text{NH}_2$ (C_2)

Molecular Formula: H_4N_2

Molecular Weight: 32.045

Accurate Mass: 32.037448

Percentage Composition: H 12.58%; N 87.42%

Source/Synthesis: Synth. from NH_3 + ClO^-

Use/Importance: Commercially available. Powerful and versatile reducing agent, esp. in basic soln. Used in plastics and agriculture industries and in H_2O treatment. Rocket fuel. Reducing agent often used in analysis e.g. Hg^{II} , $\text{Pt}^{\text{II,IV}}$ (to metal), Se^{IV} to Se, $\text{NO}_3^{(-)}$ to $\text{NO}_2^{(-)}$

Physical Description: Colourless oily fuming liq.

Melting Point: Mp 1.8°

Boiling Point: Bp 113.5°

Solubility: Misc. H_2O , alcohols; sl. sol. org. solvs.

Density: d^{25}_4 1.004

pKa Value: $\text{p}K_a$ 7.96

Refractive Index: n^{25}_D 1.4640

Hazard & Toxicity: Explosive in air if ignited or overheated. Highly toxic, corrosive

Aldrich: 30940-0

Sigma: H2761

>>Derivative: Monohydrate

CAS Registry Number: 10217-52-4

Molecular Formula: $\text{H}_6\text{N}_2\text{O}$

Molecular Weight: 50.06

Accurate Mass: 50.048013

Percentage Composition: H 12.08%; N 55.96%; O 31.96%

Use/Importance: Commercially available strong base, v. powerful reducing agent, solv., rocket engine propellant. Used in manuf. of Helman catalyst

Physical Description: Fuming liq.

Melting Point: Mp -51.7°

Boiling Point: Bp₇₄₀ 118-119°. Bp₄₇ 26°

Solubility: Insol. CHCl_3 , Et_2O ; misc. H_2O , alcohols

Other Data: Molecular, not ionic, complex. More convenient to use than pure hydrazine

Hazard & Toxicity: Cancer suspect agent. Toxic. Attacks glass, rubber, v. corrosive

Aldrich: 22581-9

Fluka: 53860

Sigma: H9507

>>Derivative: Hydrochloride

CAS Registry Number: 2644-70-4

Extra CAS Registry Numbers(s): 14011-37-1

Molecular Formula: ClH_5N_2

Molecular Weight: 68.506

Accurate Mass: 68.014125

Percentage Composition: Cl 51.75%; H 7.36%; N 40.89%

Physical Description: Liq.

Aldrich: 21619-4

Fluka: 53880