>>**Entry Name: Hydroxylamine,** 9CI
Synonym(s): Hydroxyamine. Amino hydroxide

CAS Registry Number: 7803-49-8

H_2NOH (C_s)

Molecular Formula: H_3NO
Molecular Weight: 33.03
Accurate Mass: 33.021464
Percentage Composition: H 9.15%; N 42.41%; O 48.44%

Source/Synthesis: Synth. from $[NH_2OH_2]Cl$ + sodium butoxide
Use/Importance: May act as an oxidising agent (esp. when acidified) or more commonly as a reducing agent. Antioxidant for photographic developers etc. Reducing agent often used in analysis e.g. Hg(*II*) to metal, Fe(*III*) to Fe(*II*); photometric detn. of V(*V*)
Physical Description: White thermally unstable hygroscopic cryst.
Melting Point: Mp 33°
Boiling Point: Bp_{22} 58°
Solubility: V. sol. H_2O, alcohols, liq. NH_3; sol. acids
Density: d^{33} 1.204
pKa Value: pK_a 5.95 (25°)
Other Data: Dec. rapidly at 20° esp. in moist air or CO_2
Hazard & Toxicity: Explodes when heated

Aldrich: 43822-7
Fluka: 55458

>>**Derivative:** Hydrochloride
Synonym(s): Hydroxylamine hydrochloride. Hydroxylammonium chloride

CAS Registry Number: 5470-11-1
Molecular Formula: ClH_4NO
Molecular Weight: 69.49
Accurate Mass: 68.998141
Percentage Composition: Cl 51.02%; H 5.80%; N 20.16%; O 23.02%
Use/Importance: Commercially available. Powerful reducing agent, catalyst and copolym. inhibitor
Melting Point: Mp 159 dec.°
Hazard & Toxicity: Toxic, corrosive; explodes on heating

Aldrich: 43136-2
Fluka: 55469
Sigma: H2391

>>**Derivative:** Sulfate (2:1)
Synonym(s): Hydroxylamine sulfate. Hydroxylammonium sulfate

CAS Registry Number: 10039-54-0
Extra CAS Registry Numbers(s): 13973-61-0
Molecular Formula: $H_8N_2O_6S$
Molecular Weight: 164.139
Accurate Mass: 164.010308
Percentage Composition: H 4.91%; N 17.07%; O 58.48%; S 19.54%
Use/Importance: Powerful reducing agent. Commercially available
Melting Point: Mp 170°
Solubility: Sol. H_2O
Hazard & Toxicity: Toxic, corrosive

Aldrich: 21025-0
Fluka: 55490
Sigma: H0127