



>>Entry Name: Diethyldithiocarbamic acid

Synonym(s): Diethylcarbamodithioic acid, 9Cl. DIECA

CAS Registry Number: 147-84-2

Et₂NC(S)SH

Molecular Formula: C₅H₁₁NS₂

Molecular Weight: 149.281

Accurate Mass: 149.033289

Percentage Composition: C 40.23%; H 7.43%; N 9.38%; S 42.96%

General Statement: Free acid unstable

Source/Synthesis: Metab. of Disulfiram [BKN11-R](#)

Use/Importance: Salts used as vulcanisation accelerators, esters as plasticisers

Calculated Log P Data: Log P 0.59 (uncertain value) (calc)

Other Data: Na and K salts sol. H₂O

>>Derivative: Na salt

Synonym(s): Sodium diethyldithiocarbamate. **Ditiocarb sodium**, INN. Dithiocarb. Cupral. Imuthiol. DTC

Extra CAS Registry Numbers(s): 148-18-5

Molecular Formula: C₅H₁₀NNaS₂

Molecular Weight: 171.262

Accurate Mass: 171.015231

Percentage Composition: C 35.07%; H 5.89%; N 8.18%; Na 13.42%; S 37.45%

Use/Importance: Used as 0.1% aq. soln. (pH -8.5) in photometric detn. of Cu(II) (ε 14000), Te, Bi, Mn, As (with Ag-DDTC); for preciptn. and extraction separation of many heavy metals; extraction separation of ionic organotin and organolead compds.

Biological Use/Importance: Antidote. Immunopotentiator. Chelating agent used for treatment of thallium poisoning

Physical Description: Cryst.

Melting Point: Mp 94-96° (when anhydr.)

Solubility: Sol. H₂O; insol. CHCl₃

pKa Value: pK_a 3.95

Other Data: Used as trihydrate. Dec. by acid solns.

Hazard & Toxicity: LD₅₀ (rat, orl) 1500 mg/kg. Exp. reprod. and teratogenic effects

>>Derivative: Ag salt

Synonym(s): Silver diethyldithiocarbamate. SDDC

CAS Registry Number: 38351-46-1

Extra CAS Registry Numbers(s): 1470-61-7

Use/Importance: Photometric reagent for As, Sb

>>Derivative: Zn salt

Extra CAS Registry Numbers(s): 14324-55-1

Use/Importance: Vulcanisation accelerator

Melting Point: Mp 180°

Boiling Point: Subl. 130°

Hazard & Toxicity: Eye, skin and mucous membrane irritant. LD₅₀ (rat, orl) 3340 mg/kg

>>Derivative: NH₄ salt

CAS Registry Number: 21124-33-4

Melting Point: Mp 80 dec.°

Aldrich: 35954-8

Fluka: 9706