



>>Entry Name: 1,4-Diphenylthiosemicarbazide

Synonym(s): *N*,2-Diphenylhydrazinecarbothioamide, 9CI

CAS Registry Number: 1768-59-8

Type of Compound Code(s): PS8300 PM7120 PA3700 PA3350
PhNHCSNHNHPh

Molecular Formula: C₁₃H₁₃N₃S

Molecular Weight: 243.332

Accurate Mass: 243.083017

Percentage Composition: C 64.17%; H 5.38%; N 17.27%; S 13.18%

Use/Importance: Used as 0.2% soln. in EtOH for photometric detn. of Ru (ϵ 10000), Re, Se, Pd ($\lambda_{\max}$ 555 nm, ϵ 10000), Pt ($\lambda_{\max}$ 430 nm, ϵ 7400)

Physical Description: Prisms (EtOH)

Melting Point: Mp 176-177°

Rare Chemicals Library: S64652-0

>>Derivative: 1-Benzoyl

Molecular Formula: C₂₀H₁₇N₃OS

Molecular Weight: 347.44

Accurate Mass: 347.109232

Percentage Composition: C 69.14%; H 4.93%; N 12.09%; O 4.60%; S 9.23%

Melting Point: Mp 310°

>>Derivative: 4-Ac

Molecular Formula: C₁₅H₁₅N₃OS

Molecular Weight: 285.369

Accurate Mass: 285.093582

Percentage Composition: C 63.13%; H 5.30%; N 14.72%; O 5.61%; S 11.24%

Melting Point: Mp 161-162°

References:

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Hara, T. *et al.*, *Anal. Chim. Acta*, 1960, **23**, 65, (*detn, Ru*)

Sushkova, S.G. *et al.*, *Zh. Anal. Khim.*, 1966, **21**, 1475, (*detn, Se*)

Kemula, W. *et al.*, *Bull. Acad. Pol. Sci., Ser. Sci. Chim.*, 1971, **19**, 325; *CA*, **75**, 117661, (*ir*)

Radushchev, A.V. *et al.*, *Zh. Anal. Khim.*, 1973, **28**, 2360, (*detn, Pd, Pt*)

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