



>>Entry Name: **Iron(III) thiocyanate**

Synonym(s): Ferric thiocyanate

CAS Registry Number: 4119-52-2

$\text{Fe}(\text{SCN})_3$

Molecular Formula: $\text{C}_3\text{FeN}_3\text{S}_3$

Molecular Weight: 230.098

Accurate Mass: 229.860371

Percentage Composition: C 15.66%; Fe 24.27%; N 18.26%; S 41.81%

Source/Synthesis: Synth. from: (i) thiocyanogen + iron metal; (ii) slow evap. of soln. of $\text{Ba}(\text{NCS})_2 + \text{Fe}_2(\text{SO}_4)_3$; (iii) $\text{Fe}(\text{OH})_3 + \text{HSCN}$. Difficult to obtain pure

Use/Importance: Used to stain samples for electron microscopy; in analytical chem.

Physical Description: Dark violet cryst.

Solubility: Sol. H_2O

Other Data: Forms trihydrate in aq. soln.

>>Derivative: Trihydrate

Source/Synthesis: Obt. by crystallisation of $\text{Fe}(\text{SCN})_3$ from H_2O

Physical Description: Red cryst. (H_2O)

References:

Schlesinger, H.I. *et al.*, *J.A.C.S.*, 1931, **53**, 1212, (*synth*)

Mitchell, K.M. *et al.*, *J.C.S.*, 1951, 1310, (*synth*)

Sano, H. *et al.*, *Chem. Lett.*, 1973, 43, (*Mössbauer, synth*)