



>>Entry Name: Pentakis(cyano-*C*)nitrosylferrate(2-), 9Cl  
Synonym(s): Pentacyanonitrosylferrate(*III*)(2-). Nitroprusside

CAS Registry Number: 15078-28-1  
Related CAS Registry Numbers(s): 14323-53-6 104493-97-2  
 $[\text{Fe}(\text{CN})_5\text{NO}]^{2(-)}$

Molecular Formula:  $\text{C}_5\text{FeN}_6\text{O}^{2(-)}$

Molecular Weight: 215.942

Accurate Mass: 215.948298

.92%; O 7.41%

Physical Description: Aq. solns. dec. in light. Salts usually diamagnetic, but may change to high spin at low temps.

>>Derivative: Di-Na salt

Synonym(s): Sodium nitroprusside, USAN. Sodium nitroferricyanide. Nipride. Nitropress. Acetest. Nipruss. Hypoten. NPS. Many other names

CAS Registry Number: 13755-38-9

Extra CAS Registry Numbers(s): 14402-89-2

Molecular Formula:  $\text{C}_5\text{FeN}_6\text{Na}_2\text{O}$

Molecular Weight: 261.921

Accurate Mass: 261.927832

Percentage Composition: C 22.93%; Fe 21.32%; N 32.09%; Na 17.55%; O 6.11%

Source/Synthesis: Synth. from  $[\text{Fe}(\text{CN})_6]^{4(-)}$  and  $\text{HNO}_3$  or  $\text{NaNO}_2$

Use/Importance: Antihypertensive drug (vasodilator *via* metabolic release of NO). Smooth muscle relaxant. Reagent for detn. of many organic compds. Standard for  $^{57}\text{Fe}$  Mössbauer. Analytical reagent for  $\text{SH}^{(-)}$

Physical Description: Ruby red rhombic cryst. +  $2\text{H}_2\text{O}$

Other Data: Ir  $\nu_{\text{NO}}$  1947  $\text{cm}^{-1}$

Hazard & Toxicity: Some adverse effects due to metabolism to  $\text{CN}^{(-)}$  and  $\text{CNS}^{(-)}$

Aldrich: 43145-1

Fluka: 71780

Sigma: S0501

>>Derivative: Di-K salt

CAS Registry Number: 14709-57-0

Molecular Formula:  $\text{C}_5\text{FeK}_2\text{N}_6\text{O}$

Molecular Weight: 294.138

Accurate Mass: 293.875712

Percentage Composition: C 20.42%; Fe 18.99%; K 26.58%; N 28.57%; O 5.44%

Physical Description: Cryst. +  $1\text{H}_2\text{O}$

Solubility: Sol.  $\text{H}_2\text{O}$

>>Derivative: Fe(*II*) salt, trihydrate

CAS Registry Number: 132829-14-2

Molecular Formula:  $\text{C}_5\text{H}_6\text{Fe}_2\text{N}_6\text{O}_4$

Molecular Weight: 325.834

Accurate Mass: 325.914932

Percentage Composition: C 18.43%; H 1.86%; Fe 34.28%; N 25.79%; O 19.64%

Physical Description: Cryst.

Other Data: Fe(*II*) cation is coord. by  $5\text{CN}^{(-)}$  and  $1\text{H}_2\text{O}$ ; Fe(*III*) coord. by  $5\text{CN}^{(-)}$  and  $1\text{NO}^{(+)}$  with bridging  $\text{CN}^{(-)}$

References: