



>>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 HNO_3 or 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}Fe Mössbauer. Analytical reagent for $\text{SH}^{(-)}$

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

Other Data: Ir ν_{NO} 1947 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. H_2O

>>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: