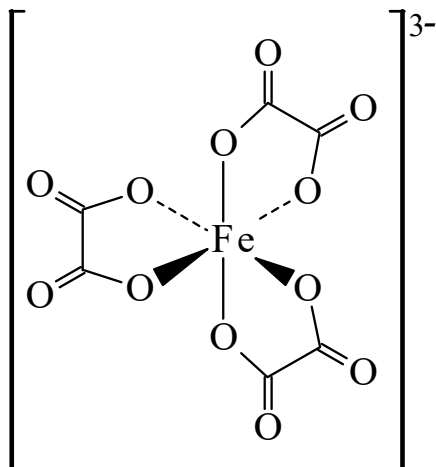




>>Entry Name: **Tris(oxalato)ferrate(III)(3-)**

Synonym(s): Tris[ethanedioato(2-)-O,O']ferrate(3-), 9Cl. Ferrioxalate



CAS Registry Number: 15321-61-6

Related CAS Registry Numbers(s): 5936-11-8 15187-32-3

Molecular Formula: $\text{C}_6\text{FeO}_{12}^{3-}$

Molecular Weight: 319.906

Accurate Mass: 319.873919

Source/Synthesis: Obt. by H_2O_2 oxidn. of Fe(II) oxalate in presence of excess oxalate

Use/Importance: Undergoes photoreduction to Fe^{II} . Photocatalyst for a range of reactions

Other Data: $\mu_{\text{eff}} = 5.95\mu_{\text{B}}$

>>Derivative: Tri-Na salt

Synonym(s): Ferric sodium oxalate. Sodium ferrioxalate

CAS Registry Number: 5936-14-1

Molecular Formula: $\text{C}_6\text{FeNa}_3\text{O}_{12}$

Molecular Weight: 388.875

Accurate Mass: 388.84322

Percentage Composition: C 18.53%; Fe 14.36%; Na 17.74%; O 49.37%

Physical Description: Green cryst.

>>Derivative: Tri-K salt

Synonym(s): Ferric potassium oxalate. Potassium ferrioxalate

CAS Registry Number: 14883-34-2

Molecular Formula: $\text{C}_6\text{FeK}_3\text{O}_{12}$

Molecular Weight: 437.201

Accurate Mass: 436.76504

Percentage Composition: C 16.48%; Fe 12.77%; K 26.83%; O 43.91%

Use/Importance: Commercially available for actinometry

Physical Description: Green

Other Data: Forms a trihydrate

>>Derivative: Tri- NH_4 salt

Synonym(s): Ferric ammonium oxalate. Ammonium ferrioxalate

CAS Registry Number: 14221-47-7

Extra CAS Registry Numbers(s): 13268-42-3

Molecular Formula: $\text{C}_6\text{H}_{12}\text{FeN}_3\text{O}_{12}$

Molecular Weight: 374.021

Accurate Mass: 373.977041

Percentage Composition: C 19.27%; H 3.23%; Fe 14.93%; N 11.23%; O 51.33%

Physical Description: Green

Other Data: Forms a trihydrate

>>Derivative: Lithium chloride (1:4:1), nonahydrate

CAS Registry Number: 149447-38-1

Source/Synthesis: Synth. from $\text{Li}_2\text{C}_2\text{O}_4 + \text{FeCl}_3$ in aq. soln.

Other Data: Two different hydrates formed depending on cryst. temp. ($T < 18^\circ$ gives dodecahydrate; $T \geq 28^\circ$ gives nonahydrate)

References: