



>>Entry Name: Tetrakis(cyano-C)nickelate(2-), 9CI

CAS Registry Number: 15453-80-2

Related CAS Registry Numbers(s): 14323-41-2 19554-32-6

Extra CAS Registry Numbers(s): 48042-08-6

$[\text{Ni}(\text{CN})_4]^{2(-)}$ (D_{4h})

Molecular Formula: $\text{C}_4\text{N}_4\text{Ni}^{2(-)}$

Molecular Weight: 162.761

Accurate Mass: 161.947642

Percentage Composition: C 29.52%; N 34.42%; Ni 36.06%

Hazard & Toxicity: Toxic. Mutagenic

>>Derivative: Di-Na salt

CAS Registry Number: 14038-85-8

Use/Importance: Catalyst for alkyne hydrogenation, hydrocyanation and hydrogenation-rearrangement of butene. Catalyst for vat dye printing

Physical Description: Transparent yellow-orange hexagonal prisms or needles + $3\text{H}_2\text{O}$ (H_2O)

Solubility: Sol. H_2O

Other Data: Dehydrates at 110°

>>Derivative: Di-K salt

CAS Registry Number: 14220-17-8

Molecular Formula: $\text{C}_4\text{K}_2\text{N}_4\text{Ni}$

Molecular Weight: 240.957

Accurate Mass: 239.875056

Percentage Composition: C 19.94%; K 32.45%; N 23.25%; Ni 24.36%

Use/Importance: Used in indirect complexometric titration determination of silver, and titrimetric determination of phosphorus. Catalyst in polymerisation of vinyl compds.

Physical Description: Red-orange cryst. + $1\text{H}_2\text{O}$ (H_2O)

Solubility: V. sol. H_2O

Other Data: Monohydrate dehydrates at 100° . Dec. in mineral acid

Fluka: 60580

>>Derivative: Bis-tetrabutylammonium salt

CAS Registry Number: 21518-38-7

Use/Importance: Catalyst in ethylene polym.

References:

Inorg. Synth., 1946, **2**, 227, (synth)

Larsen, F.K. *et al.*, *Acta Chem. Scand.*, 1967, **23**, 61, (struct)

Mason, W.R. *et al.*, *J.A.C.S.*, 1968, **90**, 5721, (uv)

Jones, D. *et al.*, *Spectrochim. Acta A*, 1968, **24**, 973

Matienzo, J. *et al.*, *Inorg. Chem.*, 1973, **12**, 2762, (pe)

Cowman, C.D. *et al.*, *J.A.C.S.*, 1973, **95**, 7873, (uv)

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