



>>Entry Name: Tris(trifluoromethanesulfonato)neodymium

Synonym(s): Neodymium trifluoromethanesulfonate. Neodymium triflate

CAS Registry Number: 34622-08-7

Related CAS Registry Numbers(s): 85920-51-0

$\text{Nd}(\text{OSO}_2\text{CF}_3)_3$

Molecular Formula: $\text{C}_3\text{F}_9\text{NdO}_9\text{S}_3$

Molecular Weight: 591.451

Accurate Mass: 588.763791

Percentage Composition: C 6.09%; F 28.91%; Nd 24.39%; O 24.35%; S 16.26%

Source/Synthesis: Synth. by boiling $\text{NdCl}_3 \cdot n\text{H}_2\text{O}$ with $\text{F}_3\text{CSO}_3\text{H}$, followed by thermal dissociation

Use/Importance: Fluorescent

Physical Description: White-pink solid

Solubility: Sol. H_2O

Other Data: Forms complexes with various *O*- and *N*-donor ligands. On pyrolysis affords NdF_3 and COF_2

Aldrich: 42518-4

>>Derivative: Nonahydrate

Synonym(s): Nonaaquaneodymium(3+) tris(trifluoromethanesulfonate)

CAS Registry Number: 34629-20-4

Physical Description: Lilac cryst.

Solubility: Sol. H_2O , EtOH, MeCN

Other Data: Contains tricapped trigonal prismatic $[\text{Nd}(\text{OH}_2)_9]^{3(+)}$ ions

References:

U.S. Pat., 1971, 3 615 169; *CA*, 1972, **76**, 5436

U.S. Pat., 1973, 3 723 485; *CA*, 1973, **78**, 147372, (*synth, use*)

Roberts, J.E. *et al.*, *Thermochim. Acta*, 1978, **25**, 233, (*synth, tga*)

Seminova, A. *et al.*, *Inorg. Chim. Acta*, 1980, **40**, 249, (*synth, ir, uv-vis, complexes*)

Vincentini, G. *et al.*, *J. Less-Common Met.*, 1983, **94**, 285, (*synth, complexes*)

Paiva Santos, C.O. *et al.*, *Inorg. Chim. Acta*, 1985, **110**, 83, (*synth, hydrate, cryst struct*)

Chatterjee, A. *et al.*, *Acta Cryst. B*, 1988, **44**, 381, (*hydrate, cryst struct*)

Hamidi, M.E.M. *et al.*, *Polyhedron*, 1994, **13**, 1787, (*synth, ir, Raman*)