



>> **Name: Ammonium cerium(4+) sulfate (4:1:4)**

Synonym(s): Sulfuric acid ammonium cerium(4+) salt (4:4:1), 9Cl. Ammonium tetrasulfatocerate(IV). Ammonium ceric sulfate. Ceric ammonium sulfate

CAS Registry Number: 7637-03-8

Extra CAS Registry Numbers(s): 13840-04-5 19495-85-3 178178-73-9

$(\text{NH}_4)_4\text{Ce}(\text{SO}_4)_4$

Molecular Formula: $\text{CeH}_{16}\text{N}_4\text{O}_{16}\text{S}_4$

Molecular Weight: 596.523

Accurate Mass: 595.849849

Percentage Composition: Ce 23.49%; H 2.70%; N 9.39%; O 42.91%; S 21.50%

Source/Synthesis: Oxidising agent, e.g. for arenes to quinones; catalyst for polym. of acrylic monomers

>> **Derivative:** Dihydrate

CAS Registry Number: 10378-47-9

Molecular Formula: $\text{CeH}_{20}\text{N}_4\text{O}_{18}\text{S}_4$

Molecular Weight: 632.553

Accurate Mass: 631.870979

Percentage Composition: Ce 22.15%; H 3.19%; N 8.86%; O 45.53%; S 20.28%

Source/Synthesis: Synth. in the $(\text{NH}_4)_2\text{SO}_4$ - $\text{Ce}(\text{SO}_4)_2$ - H_2SO_4 - H_2O system

Physical Description: Cryst. (H_2O)

Other Data: Dec. to $(\text{NH}_4)\text{Ce}(\text{SO}_4)_2$ at 420-530° and $\text{Ce}_2(\text{SO}_4)_3$ at 600-800°

References:

- Golovnya, V.A. *et al.*, *Zh. Neorg. Khim.*, 1961, **6**, 636-640; *CA*, **54**, 4296b, (*synth*)
Kharzeeva, S.E. *et al.*, *Zh. Neorg. Khim.*, 1967, **12**, 3026-3030; *CA*, **68**, 55087t, (*ir*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1986, **12**, 107, (*use*)
Bondar, S.A. *et al.*, *Zh. Neorg. Khim.*, 1986, **31**, 625-627; *CA*, **104**, 198733y, (*synth, ir, dec*)
Pokol, G. *et al.*, *J. Therm. Anal.*, 1994, **42**, 343-359, (*dihydrate, cryst struct*)