>>**Entry Name: Hexakis(nitrato)cerate(2–)**
Synonym(s): Hexanitratocerate(*IV*)(2–)

CAS Registry Number: 17176-35-1
Related CAS Registry Numbers(s): 12125-48-3 34902-07-3
$[Ce(NO_3)_6]^{2(-)}$

Molecular Formula: $CeN_6O_{18}^{2(-)}$
Molecular Weight: 512.144
Accurate Mass: 511.832347
Percentage Composition: Ce 27.36%; N 16.41%; O 56.23%
Use/Importance: V. widely used as synthetic reagent in org. chem., esp. as oxidising agent. Volumetric standard oxidant. Catalyses iodination at C5 of uracil nucleosides. Used in oxidative ring closure of allylsilanes, and to selectively nitrate aryl alkyl esters
Hazard & Toxicity: Oxidant, irritant

>>**Derivative:** Di-K salt

CAS Registry Number: 17126-44-2
Molecular Formula: $CeK_2N_6O_{18}$
Molecular Weight: 590.341
Accurate Mass: 589.759761
Percentage Composition: Ce 23.73%; K 13.25%; N 14.24%; O 48.78%
Source/Synthesis: Obt. by evapn. at 40° of soln. of KNO_3 and $ClO_2.2.4H_2O$ in boiled conc. HNO_3; monoclinic form predominates on slow cryst., both monoclinic and hexagonal forms obt. on fast cryst.
Physical Description: Orange-red cryst.
Other Data: In hexagonal form, Cl-O 247.9-251.8 pm; in monoclinic form Cl-O 248.1-253.5 pm. Both forms have irregular icosahedral coord. of Ce

>>**Derivative:** Di-Rb salt

Molecular Formula: $CeN_6O_{18}Rb_2$
Molecular Weight: 683.08
Accurate Mass: 681.655935
Percentage Composition: Ce 20.51%; N 12.30%; O 42.16%; Rb 25.02%
Physical Description: Yellow-red cryst.
Solubility: Sol. H_2O

>>**Derivative:** Di-Cs salt

Molecular Formula: $CeCs_2N_6O_{18}$
Molecular Weight: 777.955
Accurate Mass: 777.643205
Percentage Composition: Ce 18.01%; Cs 34.17%; N 10.80%; O 37.02%
Physical Description: Yellow cryst.

>>**Derivative:** Di-NH_4 salt
Synonym(s): Ammonium cerium(*IV*) nitrate. Ceric ammonium nitrate. CAN

CAS Registry Number: 16774-21-3
Extra CAS Registry Numbers(s): 10139-51-2 15078-94-1
Physical Description: Yellow soln. in H_2O
Solubility: Sol. H_2O
Aldrich: 43133-8
Fluka: 22250
Sigma: C5801

>>**Derivative:** $Bis[(PyH)_2NO_3]^{(+)}$ salt

Molecular Formula: $C_{20}H_{24}CeN_{12}O_{24}$
Molecular Weight: 956.591
Accurate Mass: 956.008081
Percentage Composition: C 25.11%; H 2.53%; Ce 14.65%; N 17.57%; O 40.14%
Source/Synthesis: Obt. by recryst. $(NH_4)_2Cl(NO_3)_6$ from Py
Physical Description: Pale orange prismatic cryst.
Other Data: $Ce(NO_3)_6^{2(-)}$ anion has pseudo-icosahedral symmetry with Cl-U 247.7-252.2 pm. Cryst. are stable in stoppered vials but dec. in air

References: