



>>Entry Name: Hexachlororuthenate(IV)(2-), 9Cl

CAS Registry Number: 20015-00-3

$[\text{RuCl}_6]^{2(-)}(\text{O}_h)$

Molecular Formula: $\text{Cl}_6\text{Ru}^{2(-)}$

Molecular Weight: 313.786

Accurate Mass: 311.71746

Percentage Composition: Cl 67.79%; Ru 32.21%

Source/Synthesis: Prepd. by reduction of $[\text{Ru}_2\text{OCl}_{10}]$ with EtOH to $[\text{RuCl}_5(\text{OH})_2]^{2(-)}$, followed by Cl_2 oxidation in conc. HCl

Use/Importance: An important synthetic reagent

>>Derivative: Di-K salt

CAS Registry Number: 23013-82-3

Molecular Formula: $\text{Cl}_6\text{K}_2\text{Ru}$

Molecular Weight: 391.983

Accurate Mass: 389.644874

Percentage Composition: Cl 54.27%; K 19.95%; Ru 25.78%

Physical Description: Black cubic cryst. (isomorphous with $\text{K}_2[\text{PtCl}_6]$)

Other Data: Ir ν_{RuCl} 338 cm^{-1} ; Ru-Cl 231.8 pm

Aldrich: 46540-2

>>Derivative: Di-Rb salt

CAS Registry Number: 23793-14-8

Molecular Formula: $\text{Cl}_6\text{Rb}_2\text{Ru}$

Molecular Weight: 484.722

Accurate Mass: 481.541048

Percentage Composition: Cl 43.88%; Rb 35.26%; Ru 20.85%

Physical Description: Black cubic cryst.

Other Data: Ir ν_{RuCl} 333 cm^{-1}

>>Derivative: Di-Cs salt

CAS Registry Number: 23793-15-9

Molecular Formula: $\text{Cl}_6\text{Cs}_2\text{Ru}$

Molecular Weight: 579.597

Accurate Mass: 577.528318

Percentage Composition: Cl 36.70%; Cs 45.86%; Ru 17.44%

Physical Description: Black cubic cryst.

Other Data: Ir ν_{RuCl} 327 cm^{-1}

>>Derivative: Di- NH_4 salt

CAS Registry Number: 18746-63-9

Molecular Formula: $\text{Cl}_6\text{H}_8\text{N}_2\text{Ru}$

Molecular Weight: 349.863

Percentage Composition: Cl 60.80%; H 2.30%; N 8.01%; Ru 28.89%

Use/Importance: Ammonium ion tunnelling has been observed

Other Data: Ir ν_{RuCl} 332 cm^{-1}

Aldrich: 33446-4

Fluka: 9805

>>Derivative: Bis- Et_4N salt

Source/Synthesis: Prepd. by treating a mixture of $\text{RuCl}_3 \cdot x\text{H}_2\text{O}$ and $[\text{NEt}_4]\text{Cl}$ with SOCl_2

Physical Description: Red-brown salt

Other Data: Ir ν_{RuCl} 332 cm^{-1}

>>Derivative: Bis- Ph_4As salt

Physical Description: Black cryst.

References: