



>>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  $\text{Cl}_2$  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  $\nu_{\text{RuCl}}$  338  $\text{cm}^{-1}$ ; 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  $\nu_{\text{RuCl}}$  333  $\text{cm}^{-1}$

>>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  $\nu_{\text{RuCl}}$  327  $\text{cm}^{-1}$

>>Derivative: Di- $\text{NH}_4$  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  $\nu_{\text{RuCl}}$  332  $\text{cm}^{-1}$

Aldrich: 33446-4

Fluka: 9805

>>Derivative: Bis- $\text{Et}_4\text{N}$  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  $\text{SOCl}_2$

Physical Description: Red-brown salt

Other Data: Ir  $\nu_{\text{RuCl}}$  332  $\text{cm}^{-1}$

>>Derivative: Bis- $\text{Ph}_4\text{As}$  salt

Physical Description: Black cryst.

References: