

# MATERIAL SAFETY DATA SHEET

24 HR. EMERGENCY PHONE # CHEM-TREC 1-800-424-9300

Manufacturer: ProChem, Inc.  
826 Roosevelt Road  
Rockford, IL 61109

Phone: (815) 398-1788  
Fax: (815) 398-1810  
E-Mail: Prochem1@aol.com

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## SECTION 1 Product Identification

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**CHEMICAL NAME:** Ruthenium (III) chloride hydrate  
**CAS #:** 14898-67-0  
**FORMULA:** RuCl<sub>3</sub>.xH<sub>2</sub>O  
**SYNONYM:** Ruthenium trichloride

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## SECTION 2 Composition and Information on Ingredients

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INGREDIENT:	CAS #	%	ACGIH (TWA)	OSHA (PEL)
Title Compound	14898-67-0	100	no data	no data

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## SECTION 3 Hazards Identification

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**EMERGENCY OVERVIEW:** Corrosive to skin and eyes. Material has a strong odor of chlorine. Inhalation will lead to burning of the respiratory tract.

**PRIMARY ROUTES OF EXPOSURE:** Ingestion, inhalation

**EYE CONTACT:** Corrosive to the eyes.

**SKIN CONTACT:** Causes burns to the skin.

**INHALATION:** The material has a strong chlorine odor. Inhalation will lead to burning of the respiratory tract.

**INGESTION:** No information is available on the physiological effects of ingestion.

**CHRONIC HEALTH EFFECTS:** No information available on long-term chronic effects.

**ACUTE HEALTH EFFECTS:** Corrosive to skin, eyes, mucous membranes and respiratory tract.

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## SECTION 4 First Aid Measures

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**EYE EXPOSURE:** Immediately flush the eyes with copious amounts of water for at least 15 minutes. Assure flushing under eyelids. A victim may need assistance in keeping their eyelids open. Get immediate competent medical attention.

**SKIN EXPOSURE:** Wash affected area with water. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.

**INHALATION:** Remove the victim to fresh air. Closely monitor the victim for signs of respiratory problems, such as difficulty in breathing, coughing, wheezing, or pain. In such cases seek immediate medical assistance.

**INGESTION:** Seek medical assistance immediately. Keep the victim calm. Give the victim water (only if conscious). Induce vomiting only if directed by medical personnel.

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## **SECTION 5                      Firefighting Measures**

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**FLASH POINT:** none

**AUTO IGNITION TEMPERATURE:** none

**EXPLOSION LIMITS:** none

**EXTINGUISHING MEDIUM:** none required

**SPECIAL FIREFIGHTING PROCEDURES:** If involved in a fire, fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.

**HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS:** If involved in a fire this material may emit toxic chlorine and hydrochloric acid fumes

**UNUSUAL FIRE OR EXPLOSION HAZARDS:** No unusual fire or explosion hazards.

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## **SECTION 6                      Accidental Release Measures**

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**SPILL AND LEAK PROCEDURES:** Small spills can be mixed with vermiculite or sodium carbonate and swept up.

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## **SECTION 7                      Handling and Storage**

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**HANDLING AND STORAGE:** Store material in a tightly sealed container. If possible, handle material in an efficient fume hood.

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## **SECTION 8                      Exposure Controls and Personal Protection**

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**EYE PROTECTION:** Always wear approved safety glasses w/side shields, or safety goggles, face shield when handling a chemicals substance in the laboratory.

**SKIN PROTECTION:** Chemical-resistant.

**VENTILATION:** If possible, handle the material in an efficient fume hood.

**RESPIRATOR:** If in form of fine dust and ventilation is not available a respirator should be worn. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 19-10.134.

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## **SECTION 9                      Physical and Chemical Properties**

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**COLOR AND FORM:** black powder

**MOLECULAR WEIGHT:** 207.43 (anhydrous)

**MELTING POINT (DEG. C.):** none

**BOILING POINT:** decomposes

**VAPOR PRESSURE:** not applicable

**SPECIFIC GRAVITY:** no data

**SOLUBILITY IN WATER:** soluble in water

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## **SECTION 10                  Stability and Reactivity**

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**STABILITY:** hygroscopic

**HAZARDOUS POLYMERIZATION:** none

**CONDITIONS TO AVOID:** material may absorb water from the atmosphere on prolonged exposure.

**INCOMPATIBILITY:** strong reducing agents

**DECOMPOSITION PRODUCTS:** hydrogen chlorine and chlorine

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## **SECTION 11 Toxicological Information**

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**RTECS DATA:** For ruthenium chlorine (anhydrous): Intraperitoneal (rat); LD50: 360mg/kg

**MUTAGENIC EFFECTS:** no data

**TETRATOGENIC EFFECTS:** no data

**CARCINOGENIC EFFECTS:** no data

To the best of our knowledge the toxicological effects of this compound have not been fully investigated.

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## **SECTION 12 Ecological Information**

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**ECOLOGICAL INFORMATION:** No information available

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## **SECTION 13 Disposal Considerations**

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**DISPOSAL:** Dispose of in according to local state and federal regulations.

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## **SECTION 14 Transportation Information**

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Corrosive solids, n.o.s., Class 8, UN 1759, PG II

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## **SECTION 15 Regulatory Information**

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**TSCA:** Listed in the TSCA inventory as RuCl<sub>3</sub> (CAS# 10049-08-8)

**SARA (TITLE 313):** not regulated by Title 313

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## **SECTION 16 Other Information**

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