SECTION 1: Product Identification

Chemical Name:	Ruthenium (III) chloride hydrate (40-43% Ru) (99.9%-Ru)
Product Number:	403
CAS Registry Number:	14898-67-0
Formula:	RuCl3.xH2O
EINECS Number:	233-167-5
Chemical Family:	metal halide
Synonym:	Ruthenium trichloride

SECTION 2: Composition and Information on Ingredients

Ingredient	CAS Number	Percent	ACGIH (TWA)	OSHA (PEL)
Title compound	14898-67-0	100	no data	no data

SECTION 3: Hazards Identification

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.
Acute Health Effects:	Corrosive to skin, eyes, mucous membranes and respiratory tract.
Chronic Health Effects:	No information available on long-term chronic effects.
NTP:	No
IARC:	No
OSHA:	No

SECTION 4: First Aid Measures

Eye Exposure:	Immediately flush the eyes with copious amounts of water for at least 10-15 minutes. A victim may need assistance in keeping their eye lids open. Get immediate medical attention.
Skin Exposure:	Wash the 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 attention immediately. Keep the victim calm. Give the victim water (only if conscious). Induce vomiting only if directed by medical personnel.

SECTION 5: Fire Fighting Measures

Flash Point:	none
Autoignition Temperature:	none
Explosion Limits:	none
Extinguishing Medium:	none required
Special Fire Fighting 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 Decomposion 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.

SECTION 6: Accidental Release Measures

Spill and Leak Procedures:	Small spills can be mixed with vermiculite or sodium carbonate and swept up.

SECTION 7: Handling and Storage

Handling and Storage:	Store material in a tightly sealed bottle. If possible, handle material in an efficient fume hood.

SECTION 8: Exposure Controls and Personal Protection

Eye Protection:	Always wear approved safety glasses when handling a chemical substance in the laboratory.
Skin Protection:	Wear protective gloves and clothing.
Ventilation:	If possible, handle the material in an efficient fume hood.
Respirator:	No respirator is required when handling this material unless large volumes are handled in a poorly ventilated area.
Additional Protection:	No additional protection required.

SECTION 9: Physical and Chemical Properties

Color and Form:	black pwdr.
Molecular Weight:	207.43 (anhydrous)
Melting Point:	100°C (dec)
Boiling Point:	decomposes
Vapor Pressure:	not applicable
Specific Gravity:	no data
Odor:	may have a strong chlorine odor.
Solubility in Water:	soluble in water

SECTION 10: Stability and Reactivity

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 chloride and chlorine

SECTION 11: Toxicological Information

RTECS Data:	For ruthenium chloride (anhydrous): Intraperitoneal (rat); LD50: 360mg/kg.

Carcinogenic Effects:	No data available
Mutagenic Effects:	No data available
Tetratogenic Effects:	No data available

SECTION 12: Ecological Information

Ecological Information:	No information available

SECTION 13: Disposal Considerations

Disposal:	Dispose of according to local, state and federal regulations.

SECTION 14: Transportation

Shipping Name (CFR):	Corrosive solids, N.O.S.
Hazard Class (CFR):	8
Additional Hazard Class (CFR):	NA
Packaging Group (CFR):	II
UN ID Number (CFR):	UN# 1759
Shipping Name (IATA):	Corrosive solids, N.O.S.
Hazard Class (IATA):	8
Additional Hazard Class (IATA):	NA
Packaging Group (IATA):	II
UN ID Number (IATA):	UN# 1759

SECTION 15: Regulatory Information

TSCA:	listed in the TSCA inventory as RuCl3 (CAS# 10049-08-8)

SARA (Title 313):	not regulated by Title 313
Second Ingredient:	none
Third Ingredient:	none