

# SAFETY DATA SHEET

Creation Date 08-Nov-2010

Revision Date 20-Dec-2025

Revision Number 5

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

## 1. Identification

**Product Name** Ammonium hexachlororuthenate(IV)

**Cat No. :** AC436930000; AC436930010

**CAS No** 18746-63-9

**Synonyms** Ammonium chlororuthenate; Diammonium hexachlororuthenate; Ruthenate(2-), hexachloro-, d

**Recommended Use** Laboratory chemicals.

**Uses advised against** Food, drug, pesticide or biocidal product use.

### Details of the supplier of the safety data sheet

#### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

#### **Emergency Telephone Number**

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

## 2. Hazard(s) identification

### Classification

This chemical is considered hazardous according to [US] OSHA (29 CFR 1910.1200, 2024)

Acute oral toxicity	Category 3
Acute dermal toxicity	Category 3
Acute Inhalation Toxicity - Dusts and Mists	Category 3

### Label Elements

**Signal Word**  
Danger

**Hazard Statements**

Toxic if swallowed, in contact with skin or if inhaled

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Wear protective gloves/protective clothing/eye protection/face protection  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area

**Inhalation**

IF INHALED: Remove person to fresh air and keep comfortable for breathing  
Call a POISON CENTER or doctor

**Skin**

IF ON SKIN: Wash with plenty of soap and water  
Call a POISON CENTER or doctor if you feel unwell  
Take off immediately all contaminated clothing  
Take off contaminated clothing and wash before reuse

**Ingestion**

IF SWALLOWED: Immediately call a POISON CENTER or doctor  
Rinse mouth

**Storage**

Store locked up  
Store in a well-ventilated place. Keep container tightly closed

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

None identified

**Hazards classified under paragraph (d)(1)(ii) of 1910.1200**

No information available

### 3. Composition/information on Ingredients

Component	CAS No	Weight %
Ruthenate(2-), hexachloro-, diammonium, (OC-6-11)-	18746-63-9	>95

### 4. First-aid measures

**Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

**Skin Contact**

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

**Inhalation**

Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. If not breathing, give artificial respiration.

<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately.
<b>Most important symptoms and effects</b>	No information available.
<b>Notes to Physician</b>	Treat symptomatically

## 5. Fire-fighting measures

<b>Unsuitable Extinguishing Media</b>	No information available
<b>Flash Point</b>	No information available
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	No information available
<b>Explosion Limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

### Specific Hazards Arising from the Chemical

Explosive properties. After use: spent catalysts may become explosive. Risk of ignition.

### Hazardous Combustion Products

Ammonia. Nitrogen oxides (NOx).

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

### NFPA

**Health**  
3

**Flammability**  
1

**Instability**  
1

**Physical hazards**  
N/A

## 6. Accidental release measures

<b>Personal Precautions</b>	Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.
<b>Environmental Precautions</b>	Should not be released into the environment. See Section 12 for additional Ecological Information.

**Methods for Containment and Clean Up** Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

## 7. Handling and Storage

<b>Handling</b>	Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.
<b>Storage.</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. Strong oxidizing agents.

## 8. Exposure controls / personal protection

<b>Exposure Guidelines</b>	This product does not contain any hazardous materials with occupational exposure limit established by the region specific regulatory bodies.
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**Engineering Measures** Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal Protective Equipment**

**Eye/face Protection** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** No protective equipment is needed under normal use conditions.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

**Appearance**

**Physical State** Solid

**Color** Dark brown

**Odor** Odorless

**Odor Threshold** No information available

**Property** **Values**

**Melting Point/Range** No data available

**Softening Point** No data available

**Boiling Point/Range** No information available

**Flash Point** No information available

**Flammability (liquid)** Not applicable

**Flammability (solid,gas)** No information available

**Explosion Limits** No data available

**Remarks**

**• Method**

**Autoignition Temperature** No data available

**Decomposition Temperature** No data available

**pH** No information available

**Viscosity** Not applicable

**Water Solubility** Soluble

**Solubility in other solvents** No information available

**Partition Coefficient (n-octanol/water)**

**Vapor Pressure** No data available

**Density / Specific Gravity** No data available

**Bulk Density** No data available

**Vapor Density** Not applicable

**Particle characteristics** No data available

**Method -** No information available

Solid

Solid

**Other Information**

**Molecular Formula** H8 Cl6 N2 Ru

**Molecular Weight** 349.85

**Evaporation Rate** Not applicable - Solid

## 10. Stability and reactivity

**Reactive Hazard** None known, based on information available

**Stability** Hygroscopic.

**Conditions to Avoid** Incompatible products. Excess heat. Avoid dust formation. Exposure to moist air or water.

<b>Incompatible Materials</b>	Strong oxidizing agents
<b>Hazardous Decomposition Products</b>	Ammonia, Nitrogen oxides (NOx)
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.

## 11. Toxicological information

### Information on expected route of exposure

<b>Inhalation</b>	Harmful by inhalation. May cause irritation of respiratory tract.
<b>Ingestion</b>	Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
<b>Eyes</b>	May cause irritation.
<b>Skin</b>	Harmful in contact with skin. May cause irritation.

### Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ruthenate(2-), hexachloro-, diammonium, (OC-6-11)-	200 mg/kg (rat)	-	-

**Toxicologically Synergistic Products** No information available

**(b) skin corrosion/irritation;** No data available

**(c) serious eye damage/irritation;** No data available

**(d) respiratory or skin sensitization;**  
**Respiratory** No data available  
**Skin** No data available

**(e) germ cell mutagenicity;** No data available

**(f) carcinogenicity;**

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Ruthenate(2-), hexachloro-, diammonium, (OC-6-11)-	18746-63-9	Not listed	Not listed	Not listed	Not listed	Not listed

**(g) reproductive toxicity;** No data available

**(h) STOT-single exposure;** No data available

**(i) STOT-repeated exposure;** No data available

**Target Organs** No information available.

(j) aspiration hazard;	Not applicable Solid
Other Adverse Effects	The toxicological properties have not been fully investigated.
Symptoms / effects, both acute and delayed	No information available.
Other Adverse Effects	The toxicological properties have not been fully investigated.
Endocrine Disrupting Properties	This product does not contain any known or suspected endocrine disruptors.

## 12. Ecological information

### Ecotoxicity

Do not empty into drains.

Persistence and Degradability	Soluble in water Persistence is unlikely based on information available.
Bioaccumulation/ Accumulation	No information available.
Mobility	Will likely be mobile in the environment due to its water solubility.

## 13. Disposal considerations

Waste Disposal Methods	Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.
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## 14. Transport information

### DOT

UN-No	UN3288
Proper Shipping Name	Toxic solid, inorganic, n.o.s.
Technical Shipping Name	(AMMONIUM HEXACHLORORUTHENATE)
Hazard Class	6.1
Packing Group	III

### TDG

UN-No	UN3288
Proper Shipping Name	Toxic solid, inorganic, n.o.s.
Technical Shipping Name	(AMMONIUM HEXACHLORORUTHENATE)
Hazard Class	6.1
Packing Group	III

### IATA

UN-No	UN3288
Proper Shipping Name	Toxic solid, inorganic, n.o.s.
Technical Shipping Name	(AMMONIUM HEXACHLORORUTHENATE)
Hazard Class	6.1
Packing Group	III

### IMDG/IMO

UN-No	UN3288
Proper Shipping Name	Toxic solid, inorganic, n.o.s.
Technical Shipping Name	(AMMONIUM HEXACHLORORUTHENATE)
Hazard Class	6.1
Packing Group	III

## 15. Regulatory Information

### United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification -	TSCA - EPA Regulatory
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			Active-Inactive	Flags
Ruthenate(2-), hexachloro-, diammonium, (OC-6-11)-	18746-63-9	X	ACTIVE	-

**Legend:**

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)**

Not applicable

**TSCA 12(b)** - Notices of Export

Not applicable

**International Inventories**

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Ruthenate(2-), hexachloro-, diammonium, (OC-6-11)-	18746-63-9	-	X	242-552-7	-	-	X	-	-	KE-09794

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)**U.S. Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)**

Not applicable

**Clean Air Act**

Not applicable

**OSHA** - Occupational Safety and Health Administration

Not applicable

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Not applicable

**U.S. Department of Transportation**

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

## U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

## Other International Regulations

## Mexico - Grade

No information available

## Authorisation/Restrictions according to EU REACH

Not applicable

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Ruthenate(2-), hexachloro-, diammonium, (OC-6-11)-	18746-63-9	-	-	-

## Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Ruthenate(2-), hexachloro-, diammonium, (OC-6-11)-	18746-63-9	Not applicable	Not applicable	Not applicable	Not applicable

## Contains component(s) that meet a 'definition' of per &amp; poly fluoroalkyl substance (PFAS)?

Not applicable

## Other International Regulations

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Ruthenate(2-), hexachloro-, diammonium, (OC-6-11)-	18746-63-9	Not applicable	Not applicable	Not applicable	Not applicable

## 16. Other Information

## Prepared By

Product stewardship (Regulatory Affairs)  
Thermo Fisher Scientific  
email - begel.sdsdesk@thermofisher.com

## Creation Date

08-Nov-2010

## Revision Date

20-Dec-2025

## Print Date

20-Dec-2025

## Revision Summary

Updated to the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) which published its Final Rule in the Federal Register revising the Hazard Communication Standard (HCS/HazCom), 29 CFR 1910.1200 (2024) (HCS §1910.1200, 2024), May 20, 2024, effective July 19, 2024.

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other



materials or in any process, unless specified in the text

**End of SDS**