

## 1 - Product and Company Information

ProductName (S)-((RUCL(SEGPHOS(R)))2(MU-CL3)(NH2ME2))

## 2 - Hazards Identification

### SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Not hazardous according to Directive 67/548/EEC.

## 3 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I
(S)-[(RUCL(SEGPHOS))2(MU-CL3)][NH2 ME2]	488809-34-3	None	None

Formula C78H64Cl5NO8P4Ru2  
Molecular Weight 1,646.67 AMU

## 4 - First Aid Measures

### AFTER INHALATION

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

### AFTER SKIN CONTACT

In case of contact, immediately wash skin with soap and copious amounts of water.

### AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

### AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

## 5 - Fire Fighting Measures

### EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

### SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

## 6 - Accidental Release Measures

### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust.

### METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

## 7 - Handling and Storage

### HANDLING

Directions for Safe Handling: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

### STORAGE

Conditions of Storage: Keep tightly closed.  
Store at 2-8°C

### SPECIAL REQUIREMENTS: Air, light, and moisture sensitive. Handle and store under nitrogen.

## 8 - Exposure Controls / Personal Protection

### ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

### GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

### PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks.

Hand Protection: Protective gloves.

Eye Protection: Chemical safety goggles.

## 9 - Physical and Chemical Properties

Appearance	Physical State: Solid Color: Light - brown Form: Powder	At Temperature or Pressure
Property	Value	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	> 100 °C	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

## 10 - Stability and Reactivity

### STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Phosphorous oxides, Ruthenium oxide Carbon monoxide, carbon dioxide, and nitrogen oxides, Hydrogen chloride.

### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

## 11 - Toxicological Information

### SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

### ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: May cause eye irritation.

Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

## 12 - Ecological Information

No data available.

## 13 - Disposal Considerations

### SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubbers. Observe all federal, state, and local environmental regulations.

## 14 - Transport Information

### RID/ADR

Non-hazardous for road transport.

### IMDG

Non-hazardous for sea transport.

### IATA

Non-hazardous for air transport.

## 15 - Regulatory Information

Not hazardous according to Directive 67/548/EEC.

Caution: Substance not yet fully tested (EU).

## 16 - Other Information



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