
Section 1: Product Identification

Product Name: Chloro(pentamethylcyclopentadienyl)ruthenium(II) tetramer, Ru 37.0%

Product #: 300419

CAS #: 113860-07-4

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound

CAS #: 113860-07-4

Percent: Ru 37.0%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.

Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.

Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.

Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.

Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.

Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.

Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.

Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.

Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.

Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.

Hazardous Combustion and Decomposition Products: The product may emit toxic fumes if involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container under an inert atmosphere. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.

Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.

Ventilation: Always handle the material in an efficient fume hood.

Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: dark red xtl.

Molecular Formula: $C_{40}H_{60}Cl_4Ru_4$

Molecular Weight: 1087

Melting Point: 276-278 °C

Boiling Point: No data available.

Flash Point: No data available.

Density: No data available.

Vapor Density: No data available.

Vapor Pressure: No data available.

Autoignition Temperature: No data available.

Specific Gravity: No data available.

Odor: No data available.

Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.

Hazardous Reactions: No data available.

Conditions to Avoid: Handle the material according to specifications.

Incompatibility: Strong oxidizing agents.

Decomposition Products: Carbon oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.

Carcinogenic Effects: No data available.

Mutagenic Effects: No data available.

Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

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

Section 14: Transportation

DOT (US): Not dangerous goods.

IMDG: Not dangerous goods.

UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.

SARA (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Publication Date: 25-Aug-14

Revision Date: 25-Aug-14