

Chloro(pentamethylcyclopentadienyl) (cyclooctadiene)ruthenium(II): sc-300347



The Power to Question

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Chloro(pentamethylcyclopentadienyl)(cyclooctadiene)ruthenium(II)
Product Number: sc-300347
Supplier: Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
Santa Cruz, CA 95060
800.457.3801 or 831.457.3800
Emergency: ChemWatch
Within the US & Canada: 877-715-9305
Outside the US & Canada: +800 2436 2255 (1-800-CHEMCALL) or call +613 9573 3112

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Water Reactive

GHS Classification

Substances, which in contact with water, emit flammable gases (Category 2)

GHS Label elements, including precautionary statements

Pictogram



Signal word Danger
Hazard statement(s)
H261 In contact with water releases flammable gases.
Precautionary statement(s)
P231 + P232 Handle under inert gas. Protect from moisture.
P422 Store contents under inert gas.

HMIS Classification

Health hazard: 0
Flammability: 3
Physical hazards: 1

NFPA Rating

Health hazard: 0
Fire: 3

Reactivity Hazard: 1

Special hazard.: W

Potential Health Effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.
Skin May be harmful if absorbed through skin. May cause skin irritation.
Eyes May cause eye irritation.
Ingestion May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : 1,5-Cyclooctadiene, ruthenium complex
Chloro(1,5-cyclooctadiene)(pentamethylcyclopentadienyl)ruthenium
Chloro(1,5-cyclooctadiene)(η⁵-pentamethylcyclopentadienyl)ruthenium

Formula : C18H27ClRu
Molecular Weight : 379.93 g/mol

<i>CAS-No.</i>	<i>EC-No.</i>	<i>Index-No.</i>	<i>Concentration</i>
Chloro(pentamethylcyclopentadienyl)(cyclooctadiene)ruthenium(II) 92390-26-6	-	-	-

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Conditions of flammability

May burn in presence of air, or emit a flammable gas in the presence of water or water vapour. Keep away from heat/sparks/open flame/hot surface/air/water. No smoking.

Suitable extinguishing media

Dry powder

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. – Carbon oxides, Hydrogen chloride gas, Ruthenium oxide

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Do not flush with water. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition – No smoking.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Never allow product to get in contact with water during storage.

Recommended storage temperature: -20 °C

Handle and store under inert gas. Keep in a dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Flame retardant protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	powder	pH	no data available
Melting/freezing point		Boiling point	no data available
Melting point/range:	143 – 147 °C (289 – 297 °F)	Flash point	no data available
Ignition temperature	no data available	Autoignition temperature	no data available
Lower explosion limit	no data available	Upper explosion limit	no data available
Vapor pressure	no data available	Density	no data available
Water solubility	no data available	Relative vapor density	no data available
Odor	no data available	Odor Threshold	no data available
Partition coefficient: n-octanol/water	no data available	Evaporation rate	no data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Reacts violently with water.

Conditions to avoid

Exposure to moisture.

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. – Carbon oxides, Hydrogen chloride gas, Ruthenium oxide

Other decomposition products – no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

no data available

Dermal LD50

no data available

Skin corrosion/irritation

no data available

Respiratory or skin sensitization

no data available

Inhalation LC50

no data available

Other information on acute toxicity

no data available

Serious eye damage/eye irritation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Teratogenicity

no data available

Specific target organ toxicity – single exposure (Globally Harmonized System)

no data available

Specific target organ toxicity – repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion May be harmful if swallowed.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Signs and Symptoms of Exposure

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

Synergistic effects

no data available

Additional Information

RTECS: Not available

12. ECOLOGICAL INFORMATION

Toxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN number: 3395 Class: 4.3 Packing group: II

Proper shipping name: Organometallic substance, solid, water-reactive (Chloro(pentamethylcyclopentadienyl)(cyclooctadiene)ruthenium(II))

Reportable Quantity (RQ):

Marine pollutant: No

Poison Inhalation Hazard: No

IMDG

UN number: 3395 Class: 4.3 Packing group: II EMS-No: F-G, S-N
Proper shipping name: ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE
(Chloro(pentamethylcyclopentadienyl)(cyclooctadiene)ruthenium(II))
Marine pollutant: No

IATA

UN number: 3395 Class: 4.3 Packing group: II
Proper shipping name: Organometallic substance, solid, water-reactive
(Chloro(pentamethylcyclopentadienyl)(cyclooctadiene)ruthenium(II))

15. REGULATORY INFORMATION**OSHA Hazards**

Water Reactive

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Reactivity Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

Chloro(pentamethylcyclopentadienyl)(cyclooctadiene)ruthenium(II)	CAS-No. 92390-26-6
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New Jersey Right To Know Components

Chloro(pentamethylcyclopentadienyl)(cyclooctadiene)ruthenium(II)	CAS-No. 92390-26-6
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California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be complete and should be used only as a guide. The burden of safe use of this material rests entirely with the user.

06/02/2011