

Dichloro(hexamethylbenzene)ruthenium(II) Dimer		Pricing >
Linear Formula	C ₂₄ H ₃₆ Cl ₂ Ru ₂	
Pubchem CID	53384554	
MDL Number	MFCD03701102	
EC No.	N/A	
IUPAC Name	1,2,3,4,5,6-hexamethylbenzene; ruthenium(2+); tetrachloride	
SMILES	CC1=C(C(=C(C(=C1C)C)C)C)C.CC1=C(C(=C(C(=C1C)C)C)C)C.[Cl-].[Cl-].[Cl-].[Cl-].[Ru+2].[Ru+2]	
Inchl Identifier	InChI=1S/2C12H18.4ClH.2Ru/c2*1-7-8(2)10(4)12(6)11(5)9(7)3;;;;;h2*1-6H3;4*1H;;q;;;;;2*+2/p-4	
Inchl Key	GVCIEWAYDUQTQ-UHFFFAOYSA-J	
Signal Word	Warning	
Hazard Statements	H302-H312-H332	
Hazard Codes	Xi	
Risk Codes	N/A	
Safety Statements	N/A	
Transport Information	N/A	
WGK Germany	3	

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SAFETY DATA SHEET

Date Accessed: 09/22/2024

Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #67421-02-7

Relevant identified uses of the substance:
Scientific research and development

Supplier details:
American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351

Emergency telephone number:
Domestic, North America +1 800-424-9300
International +1 703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 4), H332

Acute toxicity, Dermal (Category 4), H312

2.2 GHS Label elements, including precautionary statements



Hazard statement(s)

H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled

Precautionary statement(s)

P261 Avoid breathing dust/ fume/ gas/ mist/ Vapors/ spray.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ protective clothing.

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312 Call a POISON CENTER or doctor/ physician if you feel unwell.

P322 Specific measures (see supplemental first aid instructions on this label).

P330 Rinse mouth.

P363 Wash contaminated clothing before reuse.

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms : (Hexamethylbenzene)Ru(II)Cl₂ dimer
[(C₆Me₆)RuCl₂]₂

Formula : C₂₄H₃₆Cl₄Ru₂
Molecular Weight : 668.49 g/mol
CAS-No. : 67421-02-7
Hazardous components
Component Classification Concentration
DICHLORO(HEXAMETHYLBENZENE)RUTHENIUM(II) DIMER
Acute Tox. 4; H302 + H312 + H332
-
For the full text of the H-Statements mentioned in this Section, see Section 16

SECTION 4. FIRST AID MEASURES

4.1 Description of 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.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

no data available

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire

fighting if necessary.
5.4 Further information
no data available

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing Vapors, mist or gas.

Ensure adequate ventilation. Avoid breathing dust.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust.

Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

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

Recommended storage temperature: 2 - 8 °C

Store under nitrogen.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

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

Personal protective equipment

Eye/face 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 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.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and

components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- a) Appearance Form: solid
- b) Odor no data available
- c) Odor Threshold no data available
- d) pH no data available
- e) Melting point/freezing point

Melting point/range: > 300 °C (> 572 °F)

- f) Initial boiling point and boiling range
no data available

- g) Flash point no data available
 - h) EVaporation rate no data available
 - i) Flammability (solid, gas) no data available
 - j) Upper/lower flammability or explosive limits no data available
 - k) Vapor pressure no data available
 - l) Vapor density no data available
 - m) Relative density no data available
 - n) Water solubility no data available
 - o) Partition coefficient: noctanol/water no data available
 - p) Auto-ignition temperature no data available
 - q) Decomposition temperature no data available
 - r) Viscosity no data available
 - s) Explosive properties no data available
 - t) Oxidizing properties no data available
- 9.2 Other safety information
no data available
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SECTION 10. STABILITY AND REACTIVITY

- 10.1 Reactivity
no data available
 - 10.2 Chemical stability
Stable under recommended storage conditions.
 - 10.3 Possibility of hazardous reactions
no data available
 - 10.4 Conditions to avoid
no data available
 - 10.5 Incompatible materials
no data available
 - 10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas, Ruthenium oxide
Other decomposition products - no data available
In the event of fire: see section 5
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SECTION 11. TOXICOLOGICAL INFORMATION

- 11.1 Information on toxicological effects
Acute toxicity
no data available

Inhalation: no data available
Dermal: no data available
no data available
Skin corrosion/irritation
no data available
Serious eye damage/eye irritation
no data available
Respiratory or skin sensitisation
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
no data available
Specific target organ toxicity - single exposure
no data available
Specific target organ toxicity - repeated exposure
no data available
Aspiration hazard
no data available
Additional Information
RTECS: Not available
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity
no data available
12.2 Persistence and degradability
no data available
12.3 Bioaccumulative potential
no data available
12.4 Mobility in soil
no data available
12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
no data available

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

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.

SECTION 14. TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

SECTION 15. REGULATORY INFORMATION

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

Acute Health Hazard

Massachusetts Right To Know Components

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

Pennsylvania Right To Know Components

DICHLORO(HEXAMETHYLBENZENE)RUTHENIUM(II)

DIMER

CAS-No.

67421-02-7

Revision Date

New Jersey Right To Know Components

DICHLORO(HEXAMETHYLBENZENE)RUTHENIUM(
II)
DIMER
CAS-No.
67421-02-7
Revision Date
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

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.
