



catapowerinc.com

Safety Data Sheet

Version 1.1

Revision date: 23 May 2023

Section 1: Identification

1.1 Product identifier

Product name: Grubbs Catalyst, 2st generation, 3-methyl-2-butenylidene variant
Other names: Dichloro[1,3-bis(2,4,6-trimethylphenyl)-2-imidazolidinylidene](3-methyl-2-butenylidene) (tricyclohexylphosphine)ruthenium(II), Isopentenylidene(1,3-dimesitylimidazolidin-2-ylidene) (tricyclohexylphosphine)ruthenium(II) dichloride
Product code: 02-03-2011
CAS number: 253688-91-4

1.2 Relevant uses

Recommended use: Chemicals for laboratory evaluation

1.3 Supplier details

Manufacturer: Catapower, Inc.
2265 E. Foothill Blvd.
Pasadena, CA 91107
info@catapowerinc.com
Phone: (626) 657-0386

1.4 Emergency telephone number

Emergency phone: (800) 424-9300
CHEMTREC is available at the number above 24 hours/day, 7 days/week.

Section 2: Hazard(s) identification

2.1 Classification of the substance or mixture

GHS Classification: 29 CFR 1910 (OSHA HCS)

Flammable solids [Category 2], H228

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word Warning

Hazard statement(s)

H228 Flammable solid.

Precautionary statement(s)

P210 Keep away from heat, hot surface, open flames, and sparks. No smoking.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof equipment

P280 Wear protective gloves/ eye protection/ face protection.

P370 + P378 In case of fire, use dry sand, dry chemical, or alcohol-resistant foam to extinguish.

2.1 Classification of the substance or mixture

None.

Section 3: Composition/information on ingredients

3.1 Substances

Synonyms	Dichloro[1,3-bis(2,4,6-trimethylphenyl)-2-imidazolidinylidene](3-methyl-2-butenylidene) (tricyclohexylphosphine)ruthenium(II), Isopentenylidene(1,3-dimesitylimidazolidin-2-ylidene) (tricyclohexylphosphine)ruthenium(II) dichloride
Formula	C ₄₄ H ₆₇ Cl ₂ N ₂ PRu
Molecular weight	826.97 g/mol
CAS number:	253688-91-4

Section 4: First aid measures

4.1 Description of necessary first-aid instructions

General guidance:	Move out of contaminated area. Consult a physician.
If inhaled:	Remove person to fresh air. Give artificial respiration if not breathing. Get medical advice/attention.
In case of skin contact:	Remove contaminated clothing. Wash off with plenty of soap and water. Get medical advice/attention.
In case of eye contact:	Rinse eyes with water for at least 15 minutes. Remove contact lenses, if present, and continue rinsing. Get medical advice/attention.
If swallowed:	Do not induce vomiting. If conscious, rinse mouth with water. Get medical advice/attention.

4.2 Most important symptoms/effects

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 immediate medical attention and special treatment needed

No data available.

Section 5: Firefighting measures

5.1 Suitable extinguishing media

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

5.2 Specific hazards arising from the chemical

Carbon oxides (carbon monoxide and carbon dioxide), nitrogen oxides (NO_x) hydrogen chloride gas, phosphorus oxides, ruthenium oxide.

5.3 Recommendations for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Cool unopened containers with water spray. Prevent extinguishing media from entering drains.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment, and emergency procedures

Use personal protective equipment as recommended in Section 8. Avoid dust formation. Avoid breathing aerosol. Remove all sources of ignition. Ensure adequate ventilation. Evacuate personnel to safe areas.

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. 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). 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

Use personal protective equipment as recommended in Section 8. Avoid formation of dust. Avoid breathing dust and aerosol. Further processing of material may form combustible dusts. Avoid contact with skin, eyes, and clothing. Avoid ingestion. Use in appropriately exhaust ventilated area. Keep away from source of ignition. Take measures to prevent buildup of electrostatic charge.

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.

Do not store above 25 °C. Protect from direct sunlight. Handle and store under inert gas. Light sensitive. Air sensitive.

Storage class (TRGS 510): 4.1B: Flammable solid hazardous materials.

Section 8: Exposure controls / personal protection

8.1 Control parameters

Components with workplace control parameters

Contains no substance with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before breaks and at the end of workday.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

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

Skin protection

For full or incidental contact, nitrile gloves with a minimum layer thickness of 0.11 mm are recommended.

Body protection

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

Respiratory protection

When a risk assessment indicates respiratory protection is required, use a full-face respirator with multi-purpose combination 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).

Section 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Appearance:	Form: solid
Odor:	No data available
Odor threshold:	No data available
pH:	No data available
Melting/freezing point:	No data available
Initial boiling point and range:	No data available
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid, gas):	The substance or mixture is a flammable solid with the category 2
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Relative density:	No data available
Solubility:	No data available
Partition coefficient, n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available
Explosive Properties:	Not classified as an explosive
Oxidizing properties:	No data available

Section 10: Stability and reactivity**10.1 Reactivity**

No data available

10.1 Chemical stability

Stable under the recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Product degrades in the presence of air and moisture.

10.5 Incompatible materials

Oxidizing agents.

10.6 Hazardous decomposition products.

Carbon oxides (carbon monoxide and carbon dioxide), nitrogen oxides (NO_x) hydrogen chloride gas, phosphorus oxides, ruthenium oxide.

Section 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity**

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: This product is not identified as a probable, possible, or confirmed carcinogen by IARC.

NTP: This product is not identified as a known or anticipated carcinogen by NTP.

OSHA: This product does not appear on OSHA's list of regulated carcinogens.

Reproductive toxicity

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

11.2 Additional Information

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 Bioaccumulation potential

No data available

12.4 Mobility in soil

No data available

12.6 Other adverse effects

No data available

Section 13: Disposal considerations

13.1 Waste disposal methods

Must not be disposed in household garbage or in sewer. Dispose of excess product in appropriate containers with a licensed disposal company in accordance with all relevant regulations.

13.2 Contaminated packaging

Contaminated packaging should be discarded in the same manner as excess product.

Section 14: Transport information

DOT (US)

UN number: 1325

Class: 4.1

Packing group: II

Proper shipping name: Flammable solids, organic, n.o.s. (Dichloro[1,3-Bis(2,4,6-trimethylphenyl)-2-imidazolidinylidene](3-methyl-2-butenylidene)(tricyclohexylphosphine) ruthenium(II))

Reportable Quantity (RQ):

Poison Inhalation Hazard: No

IMDG

UN number: 1325

Class: 4.1

Packing group: II

EMS-No: F-A, S-G

Proper shipping name: Flammable solids, organic, n.o.s. (Dichloro[1,3-Bis(2,4,6-trimethylphenyl)-2-imidazolidinylidene](3-methyl-2-butenylidene)(tricyclohexylphosphine) ruthenium(II))

IATA

UN number: 1325

Class: 4.1

Packing group: II

Proper shipping name: Flammable solids, organic, n.o.s. (Dichloro[1,3-Bis(2,4,6-trimethylphenyl)-2-imidazolidinylidene](3-methyl-2-butenylidene)(tricyclohexylphosphine) ruthenium(II))

IATA Passenger: Not permitted for transport.

IATA Cargo: Not permitted for transport.

Section 15: Regulatory information

15.1 Safety, health, and environmental regulations/legislation specific for the substance or mixture SARA 302 components

This material does not contain any components with a section 302 EHS TPQ.

SARA 313 components

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

Fire hazard

Massachusetts Right To Know components

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

Section 16: Other information

16.1 Disclaimer

This information supplied in this document is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. Users should make their own investigation to determine the suitability of this information for their particular purposes.