

Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Bis(pentamethylcyclopentadienyl)ruthenium(II)
Compound ID:	AG003OBS
CAS Number:	84821-53-4
Identified uses:	Laboratory chemicals, manufacture of chemical compounds
Company:	Angene

2. HAZARDS IDENTIFICATION

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

Skin corrosion/irritation,(Category 2), H315

Serious eye damage/eye irritation,(Category 2A), H319

Specific target organ toxicity, single exposure; Respiratory tract irritation,(Category 3), H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

Pictogram



Signal Word

warning

Hazard statements

H315

Causes skin irritation

H319

Causes serious eye irritation

H335

May cause respiratory irritation

Precautionary statements

P261

Avoid breathing dust/fume/gas/mist/vapours/spray.

P264

Wash hands thoroughly after handling

P271

Use only outdoors or in a well-ventilated area.

P280

Wear protective gloves/protective clothing/eye protection/face protection.

P362

Take off contaminated clothing and wash before reuse.

P302+P352

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

P305+P351+P338

IF IN EYES: Rinse cautiously with water for several minutes.Remove contact lenses,if present and easy to do. Continue rinsing.

P501

Dispose of contents/container to in accordance with local regulation

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name:	Bis(pentamethylcyclopentadienyl)ruthenium(II)
CAS Number:	84821-53-4
Molecular Formula:	C ₂₀ H ₃₀ Ru
Molecular Weight:	371.5200 g/mol

4. FIRST AID MEASURES

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

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

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

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2 or section 11)

Indication of any immediate medical attention and special treatment needed

no data available

5. FIREFIGHTING MEASURES**Extinguishing media Suitable extinguishing media**

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

Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO_x), Hydrogen bromide gas

Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

no data available

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

Environmental precautions

Do not let product enter drains.

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.

Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE**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. Normal measures for preventive fire protection. For precautions see section 2.

Conditions for safe storage, including any incompatibilities

Inert atmosphere.
2-8°C.

Specific end use(s)

Apart from the uses mentioned in section 1, no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

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**

Face shield and safety glasses 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance / Form:	solid
Odor:	no data available
Odor Threshold:	no data available
pH:	no data available
Melting point:	260 °C
Boiling point/range:	no data available
Flash point:	no data available
Evaporation rate:	no data available
Flammability:	no data available
Upper/lower flammability:	no data available
explosive limits:	no data available
Vapor pressure:	no data available
Vapour density:	no data available
Relative density:	no data available
Water solubility:	no data available
Partition coefficient:	no data available
Auto-ignition temperature:	no data available
Decomposition Temp:	no data available
log Pow:	no data available
Viscosity:	no data available
Explosive properties:	no data available
Oxidizing properties:	no data available

Other safety information no data available

10. STABILITY AND REACTIVITY

Reactivity:	no data available
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions	no data available
Conditions to avoid	no data available
Incompatible materials	no data available
Hazardous decomposition products	no data available
Other decomposition products:	no data available
In the event of fire:	see section 5

11. TOXICOLOGICAL INFORMATION

Acute toxicity:	Oral Rat LD50>11,500mg/kg
Dermal:	no data available
Skin corrosion/irritation:	no data available
Serious eye damage/irritation	no data available
Respiratory or skin sensitisation	The preceding data, or interpretation of data, was determined using Quantitative Structure Activity Relationship (QSAR) modeling.
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	
Specific target organ toxicity - single exposure	Inhalation - May cause respiratory irritation.
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.

12. ECOLOGICAL INFORMATION

Toxicity	no data available
Persistence and degradability	no data available
Bioaccumulative potential	no data available
Mobility in soil	no data available
Results of PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
Other adverse effects	no data available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods	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)	This substance is considered to be non-hazardous for transport.
IMDG	This substance is considered to be non-hazardous for transport.
IATA	This substance is considered to be non-hazardous for transport.

15. REGULATORY INFORMATION

SARA 302:	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
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	
New Jersey Right To Know Components	
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

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Eye Irrit.	Eye irritation
Skin Irrit.	Skin irritation
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

Further information

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. Angene shall not be held liable for any damage resulting from handling or from contact with the above product. See invoice or packing slip for additional terms and conditions of sale.