



Safety Data Sheet

Revision: 01

Date: January 9, 2018

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

1. Product Identifiers

Product Name	Ruthenium
Catalog No	5248
Brand Name	Ruthenium
CAS No.	92361-49-4

2. Relevant identified uses of the substance or mixture and uses advised against

Identified Uses	Laboratory chemicals, Manufacturer of substances
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3. Details of the supplier of the safety data sheet

Company	Advanced BioMatrix, Inc. 5930 Sea Lion Place Carlsbad, CA 92010 USA Phone: 1-800-883-8220 1-760-929-0755 outside USA
Fax	1-510-217-3452

4. Emergency telephone number

Emergency Phone No.	1-800-883-8220
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SECTION 2 – HAZARDS IDENTIFICATION

1. Classification of the substance or mixture

Not a hazardous substance or mixture.

2. GHS Label elements, including precautionary statements

Not a hazardous substance or mixture.

3. Hazards not otherwise classified (HNOC) or not covered by GHS – None

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Synonyms: Chloro(pentamethylcyclopentadienyl)bis(triphenylphosphine)ruthenium(II)

CAS No. : 92361-49-4

Formula : C₄₆H₄₅ClP₂Ru

Molecular Weight : 796.32 g/mol

No ingredients hazardous according to OSHA criteria.

No components need to be disclosed according to the applicable regulations.

SECTION 4 – FIRST AID MEASURES

1. Eye Contact

Flush eyes with water as a precaution.

2. Skin Contact

Wash off with soap and plenty of water.

3. Inhalation

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

4. Ingestion

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

5. 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

6. Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5 – FIREFIGHTING MEASURES

1. Extinguishing media

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

2. Special hazards arising from the substance or mixture

Carbon oxides

3. Advice for firefighters

Wear self-contained breathing apparatus for firefight if necessary.

4. Further Information

No data available

SECTION 6 – ACCIDENTAL RELEASE MEASURES

1. Personal precautions, protective equipment and emergency procedures

Avoid dust formation.

Avoid breath vapors, mist or gas.

For personal protection see section 8.

1. Environmental precautions

Do not let product enter drains.

2. Methods and materials for containment and cleaning up

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

3. Reference to other sections

For disposal see section 13.

SECTION 7 – HANDLING AND STORAGE

1. Precautions for safe handling

Provide appropriate exhaust ventilation at place where dust is formed. For precaution see section 2.2

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 Handle and store under inert gas. Storage class (TRGS 510): 13: Non Combustible Solids

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

1. Workplace control parameters

The product does not contain any substances with occupational exposure limit values.

2. Exposure controls

Appropriate engineering controls

General industrial hygiene practice.

Personal protective equipment

Eye/Face protection

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 to avoid skin contact with this product. Dispose of the contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body protection

Choose body protection in relations to its type, to the concentration and amount of dangerous substances, and to the specific work place. The type of protective equipment must be selected according to the concentration and the amount of the dangerous substance at the specific work place.

Respiratory protection

Respiratory protection is not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) 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

Appearance

Form	Solid
Odor	No data available
Odor threshold	No data available
pH	No data available
Melting point/freezing point	128 °C
Initial boiling point and boiling range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability	No data available
Upper/lower flammability	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density	No data available
Water 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	No data available
Oxidizing properties	No data available

SECTION 10 – STABILITY AND REACTIVITY

Reactivity	No data available
Chemical stability	Stable under recommend storage conditions
Possibility of hazardous reactions	No data available
Conditions to avoid	No data available
Incompatible material	Strong oxidizing agents
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. - Nature of decomposition products not known.

In the event of fire: see section 5.

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute toxicity	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 components of this product present at levels greater than or equal to 0.1% is identified as known or anticipate carcinogen by IARC.
NTP	No components of this product present at levels greater than or equal to 0.1% is identified as known or anticipate carcinogen by NTP.
OSHA	No components 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
Specific target organ toxicity	No data available

Single exposure	No data available
Repeated exposure	No data available
Aspiration hazard	No data available
Additional information	
RTECS	MT7250000

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

SECTION 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 effect	No data available

SECTION 13 – DISPOSAL CONSIDERATIONS

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

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

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

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	No SARA Hazards
Massachusetts Right To Know Components	No components are subject to the Massachusetts Right to Know Act.
Pennsylvania Right To Know Components	
Healon	CAS No. 9067-32-7
New Jersey Right To Know Components	
Healon	CAS No. 9067-32-7
California Prop. 65 Components	This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16 – OTHER INFORMATION

HMIS Rating	
Health hazard	0
Chronic Health Hazard	0
Flammability	0
Physical Hazard	0
NFPA Rating	
Health hazard	0
Fire Hazard	0
Reactivity Hazard	0

Further information:

This information has been prepared by Advanced BioMatrix, Inc. 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. Advanced BioMatrix, Inc. and its Affiliates shall not be held liable for any damages resulting from handling or from contact with the above product. See www.advancedbiomatrix.com for additional terms and conditions of sale.

Preparation Information:

Advanced BioMatrix, Inc.
1-800-883-8220