

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 Reagent

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

SECTION 2 – HAZARDS IDENTIFICATION

1. Classification of the substance or mixture

Not a hazardous substance or mixture.
Classification according to Regulation (EC) No. 1272/2008

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. : 50525-27-4
Formula : C₄₆H₄₅ClP₂Ru
Molecular Weight : 748.62 g/mol

No ingredients hazardous according to Regulation (EC) No. 1272/2008.
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**

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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

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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

Odor

Odor threshold

pH

Melting point/freezing point

Initial boiling point and boiling range

Flash point

Evaporation rate

Flammability

Upper/lower flammability

Vapor pressure

Vapor density

Relative density

Water solubility

Partition coefficient: n- octanol/water

Auto-ignition temperature

Decomposition temperature

Viscosity

Solid

No data available

No data available

No data available

128 °C

No data available

No data available

No data available

No data available

No data available

No data available

No data available

No data available

No data available

No data available

No data available

No data available

No data available

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Explosive properties

Oxidizing properties

No data available

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.

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OSHA

Reproductive toxicity
Specific target organ toxicity
 Single exposure
 Repeated exposure
Aspiration hazard
Additional information
 RTECS

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.

No data available

No data available

No data available

No data available

MT7250000

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

SECTION 12 – ECOLOGICAL INFORMATION

Toxicity
Persistence and degradability
Bioaccumulative potential
Mobility in soil
Results of PBT and vPvB assessment

Other adverse effect

No data available

No data available

No data available

No data available

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

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

ADR
IMDG
IATA

Not dangerous goods

Not dangerous goods

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.

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Preparation Information:

Advanced BioMatrix, Inc.

1-800-883-8220