

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

SAFETY DATA SHEET

Version: v1

Revision Date: 2025-09-11

Print Date: 2025-09-12

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : Ruthenium
Product Number : R434671
Brand : aladdin
CAS-No. : 7440-18-8

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances.

1.3 Company

Company : ALADDIN SCIENTIFIC CORPORATION
Address : 14078 Meridian Parkway,
Riverside, CA. 92518
Telephone : +1 (833) 552-7181
Fax : no data available

1.4 Emergency telephone number

CHEMTREC®, Inside the USA : 1-800-424-9300
CHEMTREC®, Outside the USA :

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Flammable solid [Category 2]

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H228

Flammable solid

H413

May cause long lasting harmful effects to aquatic life

Precautionary statement(s)

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P210	Keep away from heat, hot surface, sparks, open flames and other ignition sources. - No smoking.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting/...] equipment.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P370+P378	In case of fire: Use ... to extinguish.
P501	Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: Ruthenium black, Ruthenium element
Formula	: Ru
Molecular weight	: 101.07
CAS No.	: 7440-18-8
EC-NO.	: 231-127-1

Component	Classification	Concentration
Ruthenium	no data available	≥99.9% metals basis, sponge, -100 mesh

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician if necessary. Remove to fresh air.

If inhaled

Transfer to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration.

In case of skin contact

Wash skin with soap and water.

In case of eye contact

Wash with plenty of water.

If swallowed

Never feed anything to an unconscious person. Rinse your mouth and drink more water.

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

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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

Water, Foam, Carbon dioxide (CO₂), Dry powder

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

no data available

5.3 Advice for firefighters

Wear self-contained breathing and full protective equipment

5.4 Further information

no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation, especially in confined areas.

6.2 Environmental precautions

See Section 12 for additional Ecological Information.

6.3 Methods and materials for containment and cleaning up

If safety requires, prevent further leakage or spillage. Use personal protective equipment as needed. Cover the powder spillage with plastic cloth or waterproof cloth to minimize diffusion and keep the powder dry. Use the machine to lift and place in a suitable container for disposal. Avoid dust generation. Thoroughly clean contaminated surfaces.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Store at room temperature.

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7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

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

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166(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. The selected protective gloves have to satisfy the specifications of Regulation (EU)2016/425 and the standard EN 374 derived from it.

Body Protection

Complete suit protecting against chemicals, 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

Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type 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).

Control of environmental exposure

If safety requires, prevent further leakage or spillage. Do not let the product enter the sewer.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	no data available
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	2334 °C
f) Initial boiling point and boiling range	4150°C
g) Flash point	no data available
h) Evaporation rate	no data available

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i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	no data available
n) Water solubility	no data available
o) Partition coefficient: n-octanol/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 N	no data available
t) Oxidizing properties N	no data available

9.2 Other safety information

no data available

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

Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

no data available

Skin corrosion/irritation

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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

no data available

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

Additional Information

no data available

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

no data available

12.6 Other adverse effects

no data available

SECTION 13:

13.1 Disposal considerations

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Product

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information**DOT (US)**

UN number: UN3089	Packing group: III	Class: 4.1
Proper shipping name: Metal powders, flammable, n.o.s.	Reportable Quantity(RQ): no data available	Poison Inhalation Hazard: no data available
Environmental Hazards: no data available		

IMDG

UN number: UN3089	Packing group: III	EMS-No: F-G,S-G
Proper shipping name: Metal powders, flammable, n.o.s.		

IATA

UN number: UN3089	Packing group: III	Class: 4.1
Proper shipping name: Metal powders, flammable, n.o.s.		

SECTION 15: Regulatory information

Please note that waste disposal should also meet local regulations. If applicable, the chemical meets the requirements of the Regulations on the Safety Management of Hazardous Chemicals (adopted by the State Council on December 4, 2013).

SECTION 16: Other information

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