

Shanghai Aladdin Biochemical Technology Co., Ltd.
No. 809, Chuhua Branch Road, Fengxian District, Shanghai

SAFETY DATA SHEET

Version: v1
Revision Date: 2024-01-20
Print Date: 2024-01-26

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

1.1 Product identifiers

Product name : Ruthenium
Product Number : R105896
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 Details of the supplier of the safety data sheet

Company : Shanghai Aladdin Biochemical Tech Co., Ltd
Address : 36 Xinjinqiao Road, Shanghai
Telephone : 400-620-6333
Fax : no data available

1.4 Emergency telephone number

Emergency Phone : 0532-83889090

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H228

Flammable solid

Precautionary statement(s)

P210

Keep away from heat, hot surface, sparks, open flames and other ignition sources. - No smoking.

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

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SECTION 3: Composition/information on ingredients

3.1 Substances

| | |
|------------------|---|
| Synonyms | : Ru Black;Ruthenium(0) 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 | powder, 99.9% metals basis |

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

no data available

In case of skin contact

Rinse with soap and plenty of water. Consult a doctor.

In case of eye contact

In case of eye contact, rinse thoroughly with plenty of water for at least 15 minutes and consult a doctor.

If swallowed

Rinse your mouth with water and then drink a large amount of water If symptoms appear, seek medical treatment

4.2 Most important symptoms and effects, both acute and delayed

no data available

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

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5.3 Advice for firefighters

no data available

5.4 Further information

Cool unopened containers with water spray.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

It is recommended that emergency responders wear air-carrying respirators, anti-static clothing, and rubber oil-resistant gloves. Do not touch or step over spillage. All equipment used during work should be grounded. Cut off sources of leaks as much as possible. Eliminate all ignition sources. The warning area is delineated according to the influence area of liquid flow, vapor or dust diffusion, and unrelated personnel are evacuated to the safe area from the crosswind and upwind directions.

6.2 Environmental precautions

Do not allow the product to enter the sewer.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

No data available

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool place. Keep the container tightly closed and store in a dry and ventilated place.

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**

no data available

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

no data available

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

no data available

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

| | |
|---|--------------------------------|
| a) Appearance | form: powder color: light gray |
| b) Odour | no data available |
| c) Odour Threshold | no data available |
| d) pH | no data available |
| e) Melting point/freezing point | 2310°C |
| f) Initial boiling point and boiling range | 3900°C |
| g) Flash point | no data available |
| h) Evaporation rate | no data available |
| 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 | 12.45 g/mL |
| 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 |

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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

no data available

10.5 Incompatible materials

strong oxidant

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

no data available

Serious eye damage/eye irritation

May cause eye irritation.

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

There are no components in this product at levels greater than or equal to 0.1% that have been identified by IARC as possible or definite human carcinogens.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

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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

Product
no data available
Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

UN number: 3089

Proper shipping name: METAL
POWDER, FLAMMABLE, N.O.S.

Environmental Hazards: No

IMDG

Packing group: II

Reportable Quantity(RQ): no data
available

Class: 4.1

Poison Inhalation Hazard: No

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UN number: 3089

Packing group: II

EMS-No: No

Proper shipping name: METAL POWDER, FLAMMABLE, N.O.S.
IATA

UN number: 3089

Packing group: II

Class: 4.1

Proper shipping name: METAL POWDER, FLAMMABLE, N.O.S.

SECTION 15: Regulatory information

no data available

SECTION 16: Other information

Further information

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