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

1.1 Product identifiers
Product name: Rhodium
Product Number: 204218
Brand: Aldrich
REACH No.: A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS-No.: 7440-16-6

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: Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES
Telephone: +1 314 771-5765
Fax: +1 800 325-5052

1.4 Emergency telephone
Emergency Phone #: 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2: Hazards identification

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

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

2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Formula</th>
<th>Rh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular weight</td>
<td>102.91 g/mol</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>7440-16-6</td>
</tr>
<tr>
<td>EC-No.</td>
<td>231-125-0</td>
</tr>
</tbody>
</table>

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

SECTION 4: First aid measures

4.1 Description of first-aid measures

If inhaled
After inhalation: fresh air.

In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

In case of eye contact
After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed
After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

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.

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
Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture
Rhodium/rhodium oxides
Combustible. Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters
In the event of fire, wear self-contained breathing apparatus.

5.4 Further information
none
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

6.2 Environmental precautions
No special precautionary measures necessary.

6.3 Methods and materials for containment and cleaning up
Observe possible material restrictions (see sections 7 and 10).

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
No data available

7.3 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

8.1 Control parameters
Ingredients with workplace control parameters

8.2 Exposure controls

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). Safety glasses

Skin protection
not required

Respiratory protection
Not required; except in case of aerosol formation.

Control of environmental exposure
No special precautionary measures necessary.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
a) Appearance Form: powder
Color: gray
b) Odor: No data available

c) Odor Threshold: No data available

d) pH: No data available

e) Melting point/freezing point: Melting point/range: 1.966 °C - lit.

f) Initial boiling point and boiling range: 3.727 °C - lit.

g) Flash point: Not applicable

h) Evaporation rate: No data available

i) Flammability (solid, gas): No data available

j) Upper/lower flammability or explosive limits: No data available

k) Vapor pressure: No data available

l) Vapor density: No data available

m) Density: 12.41 g/mL - lit.

   Relative density: No data available

n) Water solubility: No data available

o) Partition coefficient: n-octanol/water: No data available

p) Autoignition temperature: not auto-flammable

q) Decomposition temperature: No data available

r) Viscosity: Viscosity, kinematic: No data available

   Viscosity, dynamic: No data available

s) Explosive properties: No data available

t) Oxidizing properties: none

   Particle Size Distribution:

   D10 = 23 µm

   D50 = 179 µm

   D90 = 534 µm

   Type of distribution: volume distribution

   Measurement method: ISO 13320

   Measurement technique: laser diffraction

9.2 Other safety information

   No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

   No data available
10.2 **Chemical stability**
The product is chemically stable under standard ambient conditions (room temperature).

10.3 **Possibility of hazardous reactions**
No data available

10.4 **Conditions to avoid**
no information available

10.5 **Incompatible materials**
Strong oxidizing agents, Halogens, Chlorine trifluoride, Oxygen difluoride

10.6 **Hazardous decomposition products**
In the event of fire: see section 5

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**SECTION 11: Toxicological information**

11.1 **Information on toxicological effects**

- **Acute toxicity**
  Oral: No data available
  Inhalation: No data available
  Dermal: No data available

- **Skin corrosion/irritation**
  No data available

- **Serious eye damage/eye irritation**
  No data available

- **Respiratory or skin sensitization**
  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

11.2 **Additional Information**

- **Endocrine disrupting properties**
  **Product:**
  Assessment The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
The life science business of Merck operates as MilliporeSigma in the US and Canada.

RTECS: VI9069000
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity
No data available

12.2 Persistence and degradability
The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties
Product:
Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product
See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 3089  IMGD: 3089  IATA: 3089

14.2 UN proper shipping name
ADR/RID: METAL POWDER, FLAMMABLE, N.O.S.
IMDG: METAL POWDER, FLAMMABLE, N.O.S.
IATA: Metal powder, flammable, n.o.s.
14.3 **Transport hazard class(es)**
   ADR/RID: 4.1  
   IMDG: 4.1  
   IATA: 4.1

14.4 **Packaging group**
   ADR/RID: II  
   IMDG: II  
   IATA: II

14.5 **Environmental hazards**
   ADR/RID: no  
   IMDG Marine pollutant: no  
   IATA: no

14.6 **Special precautions for user**
   No data available

**SECTION 15: Regulatory information**

15.1 **Safety, health and environmental regulations/legislation specific for the substance or mixture**
   This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 **Chemical Safety Assessment**
   For this product a chemical safety assessment was not carried out

**SECTION 16: Other information**

**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. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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