



This document is not a safety data sheet, but it is based on the GHS regulations.

Version Revision Date: Date of last issue: 13.07.2018
3.0 11.08.2020 Date of first issue: 26.10.2017

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

1.1 Product identifier

Trade name : Ruthenium Powder / Sponge min. 99.95 %

Product code : 5008180

REACH Registration Number : 01-2120746664-47-0000

Company : Heraeus Deutschland GmbH & Co. KG

01-2120746664-47-0001

Company : Heraeus Metals Germany GmbH & Co. KG

Heraeus companies not listed here do not have a REACH registration, because the companies either are located outside the EU or they are not required to register due to the annual

amount of produced/imported substance.

Substance name : ruthenium

CAS-No. : 7440-18-8

EC-No. : 231-127-1

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

Use of the Sub- : Industrial use

stance/Mixture

1.3 Details of the supplier of the safety data sheet

Company : Heraeus Deutschland GmbH & Co. KG

Heraeusstr. 12-14 63450 Hanau

Telephone : +496181351

E-mail address of person : <a href="mailto:sds@heraeus.com">sds@heraeus.com</a>

responsible for the SDS (Heraeus Holding: EHS Chemical Safety)

1.4 Emergency telephone number

Emergency telephone num: +49 6132-84463

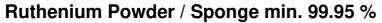
ber International Emergency Number

This telephone number is available 24 hours per day, 7 days

per week.

#### **SECTION 2: Hazards identification**

Not a hazardous substance or mixture.





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# **SECTION 3: Composition/information on ingredients**

Substance name : ruthenium

**Hazardous components** 

Remarks : No hazardous ingredients

#### **SECTION 4: First aid measures**

## 4.1 Description of first aid measures

General advice : First aider needs to protect himself.

Move out of dangerous area.

Show this safety data sheet to the doctor in attendance.

If inhaled : Move to fresh air.

In case of skin contact : Take off all contaminated clothing immediately.

Wash off with soap and plenty of water.

In case of eye contact : In case of eye contact, remove contact lens and rinse imme-

diately with plenty of water, also under the eyelids, for at least

15 minutes.

Keep eye wide open while rinsing.

Protect unharmed eye.
Call a physician immediately.

If swallowed : Immediately give large quantities of water to drink.

Do NOT induce vomiting.

#### 4.2 Most important symptoms and effects, both acute and delayed

None known.

#### 4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

## **SECTION 5: Firefighting measures**

# 5.1 Extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.





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5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-

fighting

Exposure to decomposition products may be a hazard to

health

Hazardous combustion prod- : Metal oxides

ucts

5.3 Advice for firefighters

Special protective equipment :

for firefighters

In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

Further information Use a water spray to cool fully closed containers.

Prevent fire extinguishing water from contaminating surface

water or the ground water system.

#### **SECTION 6: Accidental release measures**

## 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions Follow safe handling advice and personal protective equip-

ment recommendations. Ensure adequate ventilation. Evacuate personnel to safe areas.

Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Environmental precautions Do not allow contact with soil, surface or ground water.

Do not let product enter drains.

# 6.3 Methods and material for containment and cleaning up

Pick up and arrange disposal without creating dust. Methods for cleaning up

Sweep up or vacuum up spillage and collect in suitable con-

tainer for disposal.

## 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

## **SECTION 7: Handling and storage**

## 7.1 Precautions for safe handling

Advice on safe handling Provide sufficient air exchange and/or exhaust in work rooms.

Wear personal protective equipment.

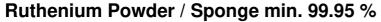
Avoid inhalation, ingestion and contact with skin and eyes. Smoking, eating and drinking should be prohibited in the ap-

plication area.

Keep away from food and drink. Wash hands before breaks Hygiene measures

and at the end of workday. Keep working clothes separately. Remove and wash contaminated clothing and gloves, includ-

ing the inside, before re-use.





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#### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

: Keep tightly closed in a dry, cool and well-ventilated place.

7.3 Specific end use(s)

Specific use(s) : No data available

# **SECTION 8: Exposure controls/personal protection**

#### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

#### 8.2 Exposure controls

#### **Engineering measures**

Provide sufficient air exchange and/or exhaust in work rooms.

## Personal protective equipment

Eye protection

Safety glasses with side-shields

Hand protection

Remarks : Before removing gloves clean them with soap and water.
Gloves should be discarded and replaced if there is any indi-

cation of degradation or chemical breakthrough. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts,

abrasion, and the contact time.

Skin and body protection : Choose body protection according to the amount and con-

centration of the dangerous substance at the work place.

Respiratory protection : No personal respiratory protective equipment normally re-

auired.

Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Filter type ABEK-P

## **SECTION 9: Physical and chemical properties**

# 9.1 Information on basic physical and chemical properties

Appearance : powder Colour : grey Codour : odourless

Odour Threshold : No data available

pH : Not applicable

Melting point/range : 2.310 °C

(1.013 hPa)

Boiling point/boiling range : 3.900 °C

(1.013 hPa)





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Flash point : Not applicable

Evaporation rate : Not applicable

Flammability (solid, gas) : No data available

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower :

flammability limit

No data available

Vapour pressure : <= 1.100 hPa

Relative vapour density : Not applicable

Relative density : No data available

Density : 12,45 g/cm3 (23 °C, 1.013 hPa)

Solubility(ies)

Water solubility : practically insoluble (20 °C, 1.013 hPa)

Solubility in other solvents : No data available

Partition coefficient: n-

octanol/water

: Not applicable

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, dynamic : Not applicable

Viscosity, kinematic : Not applicable

Explosive properties : No data available

Oxidizing properties : No data available

9.2 Other information

Molecular weight : 101,07 g/mol

Self-ignition : No data available

## **SECTION 10: Stability and reactivity**

## 10.1 Reactivity

No dangerous reaction known under conditions of normal use.



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#### 10.2 Chemical stability

Stable under normal conditions.

#### 10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : No data available

10.5 Incompatible materials

Materials to avoid : No data available

#### 10.6 Hazardous decomposition products

No data available

# **SECTION 11: Toxicological information**

## 11.1 Information on toxicological effects

#### **Acute toxicity**

Not classified based on available information.

## Skin corrosion/irritation

Not classified based on available information.

## Serious eye damage/eye irritation

Not classified based on available information.

#### Respiratory or skin sensitisation

#### Skin sensitisation

Not classified based on available information.

#### Respiratory sensitisation

Not classified based on available information.

#### Germ cell mutagenicity

Not classified based on available information.

#### Carcinogenicity

Not classified based on available information.

#### Reproductive toxicity

Not classified based on available information.

#### STOT - single exposure

Not classified based on available information.

### STOT - repeated exposure

Not classified based on available information.

## **Aspiration toxicity**

Not classified based on available information.



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## **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

#### **Product:**

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 Other adverse effects

No data available

## **SECTION 13: Disposal considerations**

#### 13.1 Waste treatment methods

Product : If recycling is not practicable, dispose of in compliance with

local regulations.

Contaminated packaging : Dispose of as unused product.

#### **SECTION 14: Transport information**

## 14.1 UN number

Not regulated as a dangerous good

## 14.2 UN proper shipping name

Not regulated as a dangerous good

# 14.3 Transport hazard class(es)

Not regulated as a dangerous good

#### 14.4 Packing group

Not regulated as a dangerous good

#### 14.5 Environmental hazards

Not regulated as a dangerous good

## 14.6 Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regu-

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lations.

## 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

#### Other information

#### Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx -Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx -Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory: TRGS - Technical Rule for Hazardous Substances: TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

DE / EN