

Safety data sheet

according to 1907/2006/EC, Article 31

Date Printed 24.05.2022

Version number 1

Revision Date 24.05.2022

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

- **1.1 Product identifier**
- **Trade name: Ruthenium Tetroxide 0.5%**
- **Article number:** AGR1027
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the preparation:** No further information.
- **1.3 Details of the supplier of the safety data sheet**
- **Supplier.**
Agar Scientific Ltd
Parsonage Lane
Stansted CM24 8GF
United Kingdom
sales@agarscientific.com
Tel: +44 (0) 1279 813 519
- **Further information obtainable from:** Technical Support
- **1.4 Emergency telephone number:** 24 hours: +44 (0)1856 407333

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



Acute Tox. 4 H302 Harmful if swallowed.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS07

- **Signal word**
Not applicable
Warning
- **Hazard statements**
H302 Harmful if swallowed.
- **Precautionary statements**

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330	Rinse mouth.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

(Contd. on page 2)

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 · **vPvB:** Not applicable.

(Contd. of page 1)

SECTION 3: Composition/information on ingredients

 · **3.2 Chemical characterisation: Mixtures**

 · **Description:** Mixture of substances listed below with nonhazardous additions.

 · **Dangerous components:**

CAS: 20427-56-9	Ruthenium Tetroxide	⚠ Ox. Liq. 2, H272	0-5%
EINECS: 243-813-8			

 · **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

 · **4.1 Description of first aid measures**

 · **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

 · **After inhalation:** Supply fresh air; consult doctor in case of complaints.

 · **After skin contact:** Generally the product does not irritate the skin.

 · **After eye contact:** Rinse opened eye for several minutes under running water.

 · **After swallowing:** Call for a doctor immediately.

 · **4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

 · **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

SECTION 5: Firefighting measures

 · **5.1 Extinguishing media**

 · **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.

 · **5.2 Special hazards arising from the substance or mixture**

No further relevant information available.

 · **5.3 Advice for firefighters**

 · **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

 · **6.1 Personal precautions, protective equipment and emergency procedures** Not required.

 · **6.2 Environmental precautions:**

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

 · **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

 · **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

 · **7.1 Precautions for safe handling** No special precautions are necessary if used correctly.

(Contd. on page 3)

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- (Contd. of page 2)*
- **Information about fire - and explosion protection:** No special measures required.
 - **7.2 Conditions for safe storage, including any incompatibilities**
 - **Storage:**
 - **Requirements to be met by storerooms and receptacles:** Store at 4 degrees Celcius
 - **Information about storage in one common storage facility:** Not required.
 - **Further information about storage conditions:** None.
 - **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Additional information about design of technical facilities:** No further data; see item 7.
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
- **Respiratory protection:** Not required.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
- **Form:** Solution
- **Colour:** Gold coloured
- **Odour:** Characteristic
- **Odour threshold:** Not determined.
- **pH-value:** Not determined.

(Contd. on page 4)

Safety data sheet

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(Contd. of page 3)

· Change in condition Melting point/freezing point: 0 °C Initial boiling point and boiling range: 100 °C	
· Flash point:	Not applicable.
· Flammability (solid, gas):	Not applicable.
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product does not present an explosion hazard.
· Explosion limits: Lower: Upper:	Not determined. Not determined.
· Vapour pressure at 20 °C:	23 hPa
· Density at 20 °C:	1 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Fully miscible.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity: Dynamic: Kinematic:	Not determined. Not determined.
· Solvent content: Water: VOC (EC)	91-100 % 0.00 %
· Solids content:	1-5 %
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed.
- **Specific symptoms in biological assay:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.

(Contd. on page 5)

Safety data sheet

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(Contd. of page 4)

- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- | | |
|--|-----------------|
| · 14.1 UN-Number | Void |
| · 14.2 UN proper shipping name | Void |
| · 14.3 Transport hazard class(es) | Void |
| · 14.4 Packing group | Void |
| · 14.5 Environmental hazards: | Not applicable. |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |

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(Contd. on page 6)

Safety data sheet

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 Trade name: **Ruthenium Tetroxide 0.5%**

(Contd. of page 5)

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge and should assist the user with the safe handling of this material when properly applied. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
H272 May intensify fire; oxidiser.
- **Department issuing SDS:** Sales department
- **Contact:**
sales@agarscientific.com
Tel: +44 (0) 1279 813 519
- **Abbreviations and acronyms:**
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Ox. Liq. 2: Oxidizing liquids – Category 2
Acute Tox. 4: Acute toxicity – Category 4
- *** Data compared to the previous version altered.**

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