

**Material Safety Data Sheet**  
(Ruthenium Tetroxide, .5% stabilized)

**Section 1: Chemical Product and Company Identification**

**Product Name:** Ruthenium Tetroxide .5% stabilized

**Catalog Number:** 20700-05

**Contact Information:**

**Electron Microscopy Sciences**

1560 Industry Road

Hatfield, PA 19440

1-215-412-8400 (phone)

1-800-523-5874 (toll-free)

1-215-412-8450 (fax)

**Order Online:** [emsdiasum.com](http://emsdiasum.com)

**CHEMTREC (24-Hour Emergency Telephone), call:** 1-800-424-9300

**Section 2: Composition and Information on Ingredients**

**Composition:**

Name	CAS#	% by Weight
Ruthenium tetroxide	020427569	0.5
Water	007732185	99.5

**Toxicological Data on Ingredients:**

	IDLH: NE	TWA		STEL		CEILING	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
CAS# 007732185							
OS		NE	NE	NE	NE	NE	NE
ACGIH		NE	NE	NE	NE	NE	NE
CAS# 020427569							
OS		NE	NE	NE	NE	NE	NE
ACGIH		NE	NE	NE	NE	NE	NE

**Section 3: Hazards Identification**

Toxicological properties are not known.

#### Section 4: First Aid Measures

**Eye Contact:** Flush eyes with flowing water for at least 15 minutes.

**Inhalation:** If breathing is difficult, contact emergency personnel.

**Ingestion:** If swallowed, was out mouth with water if person is conscious.

Remove contaminated clothing. Remove to fresh air. Wash skin with deluge of water for at least 15 minutes.

#### Section 5: Fire and Explosion Data

**Flash point, °F:** no data

**LEL:** no data

**Flammability Classification:** no data

**Hazardous Combustion Products:** no data

**Method:** no data

**UEL:** no data

**Autoignition temperature, °F:** no data

**Flame Propagation Rate:** no data

#### Section 6: Accidental Release Measures

Any information listed below is to be considered in addition to internal guidelines for isolation of spill, containment of spill, removal of ignition sources from immediate area and collection for disposal of spill by trained, properly protected clean-up personnel.

Absorb liquids on absorbent material. Contain spilled liquids. Protect personnel from exposure. Use appropriate personal protective equipment.

#### Section 7 : Handling and Storage

**Storage:** Store at 4°C

#### Section 8: Exposure Controls/Personal Protection

The use of eye protection in the form of safety glasses with side shields and the use of skin protection for hands in the form of gloves are considered minimum and non-discretionary in work places and laboratories. Any recommended personal protection equipment or environmental equipment is to be considered as additional to safety glasses and gloves. Use process enclosures, local exhaust ventilation, or other engineering controls.

### Section 9: Physical and Chemical Properties

<b>Formula:</b>	RuO4	<b>vapor pressure:</b>	no data
<b>Formula weight:</b>	165.0	<b>vapor density:</b>	no data
<b>Boiling point:</b>	100°C	<b>Specific gravity:</b>	1
<b>Melting point:</b>	no data	<b>pH:</b>	no data
<b>Solubility:</b>	complete	<b>appearance:</b>	clear orange to gold colored solution

### Section 10: Stability and Reactivity Data

**Chemical Stability:** Stable

**Conditions to Avoid:** high temperature

**Incompatibility with other materials:** organic vapors, ether, alcohol, benzene, pyridine.

**Hazardous Decomposition Products:** ruthenium oxide

**Hazardous Polymerization:** will not occur

### Section 11: Toxicological Information

Acute Data: no data

Subchronic data: no data

### Section 12: Ecological Information

No data

### Section 13: Disposal Considerations

The following chart lists the status of the chemical and its components in reference to 40 CFR Part 261.33. If the product is listed by code number the substance may be subject to special federal and state disposal regulations. If no codes are listed the material must be disposed in compliance with all Federal, State, and Local Regulations.

CAS#	Waste Classification	Regulated Name
007732185	not listed	not listed
020427569	not listed	not listed

### Section 14: Transport Information

Refer to bill of lading or container label for DOT or other transportation hazard classification, if any.

### Section 15: Other Regulatory Information

This product contains a component which does not appear on the TSCA public inventory. It is manufactured or imported only in small quantities and solely for research and development.

All usage of this product must comply with 40 CFR 720.36.

This chemical substance must be used by, or directly under the supervision of, a technically qualified individual.

You must notify all persons who are engaged in experimentation, research, or analysis on the chemical substance, including the manufacture, possessing, use transport, storage, and disposal of the substance of any known risk to health.

Prop 65 – Column A identifies those items which are known to the State of California to cause cancer. Column B identified items which are known to the State of California to cause reproductive toxicity.

CAS#	Column A	Column B
007732185	No	No
020427569	No	No

SARA Toxic Release Chemicals (as defined in Section 313 of SARA Title III)

This list identifies the toxic chemicals, including their de minimis concentrations for which reporting is required under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA). The list is also referred to as the Toxics Release Inventory (TRI) List.

CAS#	Regulated Name	de minimis conc. %	Rep. Thres.
007732185	not listed	not listed	not listed
020427569	not listed	not listed	not listed

SARA Extremely Hazardous Substances and TPQs

This list includes hazardous chemicals as defined in 29 CFR 1910.1200©; and extremely hazardous substances regulated under Section 302 of SARA Title III with their TPQs (in pounds), as listed in 40 CFR 355, Appendices A and B.

CAS#	Regulated Name	TPQ (pounds)	EHS-RQ (pounds)
007732185	not listed	not listed	not listed
020427569	not listed	not listed	not listed

CERCLA

The hazardous substances, and their reportable quantities (RQs) are listed in the federal regulations at 40 CFR Part 302, Table 302.4. Release of a CERCLA hazardous substance in an amount equal to or greater than its RQ, in any 24-hour period, must be reported to the National Response Center.

CAS#	Regulated Name	RQ (pounds)
007732185	not listed	not listed
020427569	not listed	not listed

### Section 16: Other Information:

**Created: 7/31/2009**

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Electron Microscopy Sciences be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Electron Microscopy Sciences has been advised of the possibility of such damages.*